

A CONCEPTUAL FRAMEWORK
FOR "ISLAMIC ARCHITECTURAL" EDUCATION

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SUMMARY:

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At present "Islamic Architecture" is a controversial topic of debate within architectural forums, very much talked about but lacking a clear definition.

Saudi Arabia, birth place of Islam, modern pin-up board for many an example of "islamic architecture", has cause to be intimately linked with the area concerned and has initiated a programme for its incorporation within one of its universities. The following study is an attempt to bring a conceptual clarity to the term "Islamic Architecture" and devise an educational programme for its teaching at tertiary level of education in the Saudi Arabian context.

The adjective "Islamic" necessitates that any noun that it qualifies should conform to the tenets of Islam. This may not be possible with "Architecture" which, as a term, is tinged with the ethos of Classical Greece and is associated with "technique" and "object worship". In contrast, the equivalent term used in Islam's own epistemology, Al-°Imārah, associates the discipline with "shaping the most suitable environment for the sustenance of human life". Therefore it will be more appropriate to speak of a distinct discipline of AL-°IMĀRAH instead of "Islamic Architecture"

In defining the parameters of an independent discipline of Al-°Imārah, one can also establish parameters for a universal educational model that will train those who will be responsible for the shaping of the environment conforming with the attributes of Al-°Imārah. In this model, Islam's own "system of thought" and "world view" will become the postulate and the ideal "Muslim Society enjoined by Islam" as its terms of reference. Based on this model a new university programme for the teaching of Al-°Imārah, together with the structure of the courses, method of teaching of the courses, and contents of the courses will be proposed. Existing programmes for the teaching of "Architecture" are also suggested to be modified in order to facilitate the incorporation of ideals embodied in the concept of Al-°Imārah.

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First and foremost to be noted in his help is Ibrahim Eken Bey of Kayseri, Turkey. To him many of us owe the intellectual stimulus and the clarity of the concepts embodied within the world of Al-‘Imārah. [*] No verbal thanks can express the indebtedness that his gentle, patient and always available council has won for him from every one who has had the honour and pleasure of listening to his lectures or attending to his private sittings. In appreciation one can only say, Jazākum Allah khayr al Jazā!

Next I would like to record the names of Dr. Mohammad Yusuf Burmawi, the present Secretary General of Umm al-Qura University who was put in charge of the "Project for Establishing a School of Islamic Architecture", and Dr. Rashid bin Rajih, the President of Umm al-Qura University of Makkah al-Mukarramah, who conceived

[*] A considerable amount of words and terms will be quoted from Arabic. They will be all underlined for ease of recognition. For the system of transliteration used and meanings of these words/terms look at Appendix Seven on Glossary.

the project in the first place. It was this project, completed in the Ramadhan of 1403 AH that became the source of this study. They must be credited with the foresight as well as perseverance that sustained the project. If the School thus established succeeds in training the kind of professional shapers of the built environment which most of us envision to live in, it will be due in no small measure to the efforts of these two able and wise administrators. Amongst the university officials the name of Dean Mohammad Noor Fatani of the College of Engineering, King Abdulaziz University should also be mentioned with gratitude. Without his consent the consultancy could not have been undertaken by the author or his colleagues that joined him in this effort. His breadth of vision that enabled him to cross the lines of inter-university parochialism is in stark contrast to the limited vision of a number of others.

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Apart from the intimate personal help, works and studies of many scholars and researchers formed the mortar and the building blocks of the final text. Occasions were found when it became difficult to differentiate their views from one's own and in the process one may have failed to give the credit due to the outcome of their toil. Any oversight in this regard hopefully does not get misunderstood.

In conclusion I can only express the hope that the final outcome does justice to all the help that I was provided with, and seek indulgence on the part of others whose contribution has not been openly acknowledged.

Wa mā tawfīqi illa billah
'aleyhi tawakkaltu
wa ilayhi unīb

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INTRODUCTION

O my people! Serve Allah alone. You have no god other than Him. He brought you into being out of the earth, and made you thrive there in.

The Qur'an, 11:61

The surface of the earth is being ceaselessly remoulded and reshaped since its creation through its own tectonic and climatic forces and by the handiwork of man. The interaction of man with his environment is both instinctive and deliberate. The frailty of the human body and the need for providing a suitable environment for its support and sustenance, naturally urge Man to seek and construct shelters for himself.

Man, however, also has an inner dimension, the physically non definable inner nature, that is variously referred to as the self, the spirit, or the ego, which elevates his instinctive urge of seeking shelter into an act of personal quest for self expression. Thus from being a simple functional endeavour of "construction" or "building", the act of shaping a man-made environment takes on a spiritual dimension a "sacredness" as a deliberate, calculated act towards a goal higher than mere function.

This deliberate act which western epistemology defines as "architecture", consumes a considerable amount of Man's physical as well as intellectual effort. At times it may lead to a situation

of accord or discord as to what constitutes a suitable built-environment for Man. The study contained in this submission is but one more drop into that intellectual ocean of effort that directly relates to the physical environment we shape around ourselves. It is an effort aimed at bringing some degree of clarity to the act of shaping the built environment. Having opted for one particular understanding of this act, one should substantiate it in its educational dimension as perceived from that particular point of view. However, there is no desire here to limit this view to a particular finite geographical area or group of human beings, as it is embodied within a universal world view defined by the system of thought of the religion of Islam.

"Architecture" will not be taken up as an isolated theoretical phenomenon. It can not be isolated from its life source, that is people and their commitment, consciously or otherwise, to an "idea". The contemporary "diversity" in "architectural" thinking that destroyed any consensus that may have existed in earlier days as regards its meaning and purpose does not allow one the luxury to remain aloof and theoretical on a plane removed from daily experiences of the reality of "Architecture". Whatever intellectual controversies may be generated around the Modern/Post-Modern polarization of the stylistic discussion, "architecture" remains an entity very much present in our lives with which and within which we have to maintain our existence. It must therefore make sense to us in its physical as well as ideological dimension both on an individual as well as communal basis.

The last quarter of the twentieth century has magnified and

reinforced the reality of one of the attributes of the century as the age of communication. This has been manifested in the degree of inter-cultural interaction that has been realized amongst the peoples on this planet. As a result there has been a colossal transformation in attitudes, as well as ideas and life-styles of various sectors of human race. In the particular case of architecture as noted by Charles Jenks, "a world village situation" has been arrived at whereby the works of a prima donna architect in a highly advanced capital of a Developed Nation is passed along in the pages of an architectural magazine in no time to a novice architect in the municipality of an isolated town of a developing nation, becoming the source of his inspiration.^[1] Of course this seemingly innocent and well intended act of being "inspired" can be viewed on a different level whereby the totality of the cultures of the human race is looked upon as the accumulated wealth of humanity and heritage of all rather than that of a few. Thus what the West has really excelled in can be reinforced by the demonstrated strengths of the East. The mutual interaction embodied in the sharing of a common heritage of all, may generate painful but healthy re-evaluation of the dearly and dogmatically held views by all in the East as well as the West. This point seems to have been arrived at globally, both in a geographical sense as well as at an intellectual level.^[*]

The following study has its origin in such a re-evaluation that came about as a result of a commission entrusted to the author who was contentedly busy trying to teach to those in the East

[*] As a "mentality" East and West resides within each other, as indicated by the most forceful literature on the third world being produced in the West. Similarly commitment to West is more dogmatic amongst the rulers of the Developing world.

what he himself was taught at the institutions of the West. The desire of the President of Umm al Qura University of Makkah al-Mukarramah to establish a department of "Islamic Architecture" within his university was the cause of the chain of actions that successively led to the compilation of this study. Dr. Rashid bin Rajih, the president, was not unique amongst the millions of the world community of Islam who was visibly disturbed but could not remove the contradictions of living in ostentatious "modern" environments unsuitable for a social life style shaped by his system of belief. Surely there was another kind of "Architecture" as well as other types of "Architects" that would remove the contradictions painfully tolerated at present.

The initial misgivings regarding the validity of the subject of "Islamic Architecture" (and by implication that of an "Islamic Architect"), were soothed upon entering in a process of consultation with others to achieve a valid proposal. It was this process of consultation that finally became a "vocation" resulting in taking up a new considered stand as to the meaning and relevance of "Islamic Architecture" in reference to the effort spent in shaping the man-made environment.

The term "Islamic Architecture" is the subject of intense debate and controversy amongst the Muslim intellectuals at present through out the world. The phrase itself contains two key words, those of "Islamic", and "Architecture". The first one, as an adjective, associates the words it is prefixed to with the religion of Islam in all its totality as a body of laws, of doctrine. Sometimes it is inter-changed with the word "Muslim"

which relates to the people who profess Islam. In this form "Muslim Architecture" would refer to buildings associated with life styles of Muslims as people who may not "exactly" live up to and reflect their faith in all their efforts. When "Islamic" is used, then the buildings should be associated with the doctrine, the laws of the faith without any compromise or dilution.

The author, and many more of his peers who have been educated within the current "enlightened" secular world culture, originally rejected the precept that "Architecture" could be defined on the basis of religion. Religion and architecture were considered as integral parts of a total culture which was articulated through economic and material considerations. Identifying religious doctrine in its "frozen" form as a prescription for an evolving progressive entity such as "architecture", was scientifically suspect and intellectually a contradiction. "Architecture" had to be understood in the context of climate, geography, materials and technology, social norms, economic circumstances, cultural traditions etc.

The second key word, "architecture" was not any less blameworthy in generating confusion. Again, being a product of western epistemology it incorporates within it the ethos of the dominant attributes of western culture. As a term it is distinctly concerned with "technique" as well as "form" as an art object. Thus when it is prefixed with another qualifying noun or adjective such as Muslim, Turkish, Pre-Colombian, etc., it suggests the presence of a measurable, identifiable technique or art object characteristic typical or common to everything considered

as "architecture" within that cultural, national geographic zone implied by the prefix. Can there be found such typical characteristics from one end of Muslim hinterland starting with the Moroccan coast of the Atlantic Ocean to the other end of the Indonesian archipelago stretching into the Pacific.?

In trying to arrive at a meaningful definition of the subject under study, known methodologies seemed to lead one no where. Generalizations based on formal characteristics such as plan typology, form generation, structure, use of materials, or evolutionary characteristics as an element of developing a cultural/aesthetic appreciation and change in taste, were insufficient in arriving at a water tight definition.

A more accurate understanding of the term was sought by attempting to identify a conceptual basis to the shaping of the built-environment embodied within the belief system of Islam. Having had to transcend the "received wisdom" of what "architecture" is and in which one has been immersed throughout one's professional life, arrival at the point of Al-Imārah (the term with which the shaping effort of the built environment is defined in Islam) as a mission entrusted upon man by the Creator, was like a "revelation". Now, there appeared to be a clearer perception of what the shaping effort was. Its direct concern was human life. It aimed at providing an environment more suitable for its sustenance and well-being. Based on this conceptual transformation as to the purpose of this particular discipline, a model of an educational programme was accordingly formulated to assure its realization.

The entity that one refers to as Islam, has no equal in other world faiths in the authenticity and integrity of its sources. Qur'an, as the Book containing the words of Allah Almighty,^[*] has no second version or edition. It is exactly the same text as recorded from the lips of the Prophet Muhammad, may peace and blessings of Allah be upon him. ^[**] Sunnah (The Prophetic Tradition), is itself a unique science developed by the Muslims to verify the authenticity of this tradition beyond any shadow of doubt. These are contained in Kutubu sittah (the Six Books of the famous compilers) of this tradition like Bukhari, Muslim etc. The third source, the Consensus of the Scholars termed as Ijma^c, was an institution established since the early days of Islam whereby each scholar was allowed to exercise individual ijtihad (personal striving) in further elucidation of the tenets of faith based on the first two sources. However, this was made binding upon the community only if the totality of the learned in the world community of Muslims agreed to its validity without a single dissension. Despite the presence of this unique and unified source, an immense amount of variety has emerged amongst the present day adherents of the faith. Today Pakistan, Turkey, Persia, Saudi Arabia, Libya, to state but a few, are entities that differ enormously from each other in their political, economic, social structures. Was it possible to take any one of these present day political entities as the ideal and try to find the answers sought in the example of that one country?

[*] In the ethics of Islam the names and attributes of Allah Almighty is always suffixed with a short Arabic phrase of praise and affirmation of His transcendence. This ethics will also be maintained in the text of this study by using the above suffix.

[**] Similarly, a phrase of supplication in Arabic is added whenever the name of beloved Prophet is mentioned. This will also be adhered to by using the English translation.

It is maintained in this study that as the authenticity of the sources are agreed upon by all Muslims, they would form the basis and the final reference of the study, ignoring the diversity of applications as exists at present. Thus Islam as the doctrine will be the basis for evolving a view and not Muslims as people who, though deviating at certain times in their practice always in the last resort uphold the sources as being the final criteria of judgement.

Having introduced in the preceding pages the genesis of the topic under study, its particular nature can now be defined in more specific terms.

i- THE NATURE OF THE PROBLEM TO BE STUDIED

The study will concentrate in the first place on bringing a clearer definition to the assumed and presumed meanings associated with the term "Islamic Architecture". In doing so an attempt will be made to clarify its nature as a professional discipline and the nature of the professional expertise required of a shaper of the built environment.

The natural implication of such an inquiry would bring into view the actual process of training by which the skills and knowledge of the field are taught to its prospective proponents. Therefore the education and training of a shaper of the built environment that would enable him to achieve a specifically "Islamic" environment will form the bulk and the major aim of the study. This aim would encompass the development of a model at the

tertiary level of education which would allow the training of such professionals. Thus a proposal for the structure and the programme of a university course will form the physical result of the effort as an end product.

Saudi Arabia has played a central role in the widening of the concerns contained in this study within the third quarter of the twentieth century. It has a unique position in a geographic sense as the original birth place of the faith of Islam. Furthermore the author has been practising as a member of the academic staff of one of the architectural departments of the universities in Saudi Arabia and in that capacity he has been testing the relevance of the ideas developed in this study.^[2] As a consequence Saudi Arabia will be used for the field work related to the subject area itself.

ii- PROCEDURE TO BE ADOPTED

The first chapter will be devoted to setting the scene within which the concerns tackled are manipulated globally at present. It is important to know the main centres of work and the nature of the products issuing from these centres so as to be able to evaluate the study in its congruity as well as divergence from these.

Architectural Education has had many shades and hues introduced into its body at the present stage of its development. This, in a way, reflects the multifaceted nature of the concerns embodied within the general discipline and the enormous amount of free

thinking that modern sciences have forced upon academicians. Mostly complementary, at times contradictory, the variety that exists in the world's architectural education has an enormous body of scholarship behind it to justify such divergence. Architectural education in Muslim countries since the beginning of the century has decidedly been in accordance with western models and in parallel to it even though not always reflecting the same standards in the general stream. In order to be able to relate this work to the general field of architectural education a critique of the present day situation will also be necessary. The second chapter will be devoted to this purpose. Architectural literature at present abounds in observations and critical evaluation of the state of the art of architecture. The questions raised around Modern Architecture and the imprecise interests attracted towards Post Modernism has also contributed to a certain turbulence in the academic institutions. The discussion is specifically a western concern and western sources will be utilized in the main for this aspect of the inquiry.

In defining the nature of the problem earlier in the chapter it was stated that educational institutions dealing with architecture in Saudi Arabia would be used as a reference for developing the programmes and testing its application. The third chapter will therefore be devoted to a survey within a historical setting of the country placing the institutions concerned in a correct perspective. It will be followed in the fourth chapter by a comparative analysis of the programmes of these institutions. The history of "architectural education" in Saudi Arabia, as will be seen later, is comparatively very young being barely twenty years

old today! Thus data is still accumulating and has not received much attention. The major topic on which the study concentrates is the nature of the rather imprecise term of "Islamic Architecture". In this will lie both the difficulty as well as the originality of the study. The fifth chapter will be devoted to a literature survey of major studies in the field in order to identify the lack of consensus as regards the conceptual inferences of the topic. With this background the meaning that should be ascribed to the term of "Islamic Architecture" will be developed in chapter six. An attempt will be made to clarify it as a distinctive concept and having done so it will be re-phrased for the purpose of this study as Al-^cIMĀRAH.

Having reviewed at an earlier stage the curricula of the schools of architecture in Saudi Arabia enough evidence will have been collected with which to identify any structure or content-wise compatibility/divergence with the concept that would be developed according to the statement in the previous paragraph. Depending on the understanding that one has of "Islamic Architecture", be it a "style" to be revived, or a "sacred art" to be cleansed and perpetuated, or a "vernacular" approach to contextualise or nationalize an otherwise foreign and inappropriate technology, many a model can be found in the West that can be adopted in order to "integrate" such approaches in the existing curricula of the schools. This was rejected in this study as an unconvincing exercise. Based on the inferences of the distinctive discipline that "Islamic Architecture" will be defined as, a particular method would be more appropriate to its teaching. Development of such a model will form the contents of chapter seven.

The model developed should be made operational in its format as well as introduced into existing institutional formats in order to actualize its aims and objectives. In other words the outcome of all the study carried up to this point aims at two parallel lines of action: how to formulate structurally, as well as programmatically a new institution that will take upon itself the educational responsibility for training of professionals in "islamic architecture", and how to introduce the concerns associated with aspects of "islamic architecture" in its re-defined form of Al-°IMĀRAH into the existing structures of the present schools in Saudi Arabia. These two particular aims will form the remainder of the study as chapters eight and nine.

In conclusion a final statement seems to be necessary. The nature of the study may seem to have two distinctive dimensions the "fusing" of which may appear puzzling to those accustomed to seeing the world divided into sacred and profane domains. The extent of the efforts, internal as well as external, at secularising Muslim societies has reached such proportions that the attempt at removing the divide between the secular and the sacred would be uncomfortable amongst a number of Muslim intellectuals too. The fact that this is a demand of the system of belief from its adherents and knowing that Islam does not part with any aspect of its authority in favour of any Caesar may help to remove the reservations that those unfamiliar with Islam may entertain and thus look upon the study for what it is: an effort to justify a more "humanistic" approach to the shaping of the built environment, and the education of those who will aspire for the sacred worldly duty of moulding such an environment.

NOTES ON INTRODUCTION

- 1 Used by Charles Jenks in the concluding comments made at the end of the fifth Aga Khan Award for Architecture Seminar held in Amman, Jordan May 1980.
- 2 The author has been serving as a member of the teaching staff in the Department of Architecture, School of Environmental Design, King Abdulaziz University - Jeddah since February 1980. He was elected Chairman of the Department in 1982, and held the post for two consecutive terms of two years till 1986.

During this period a unique activity of cooperation was started amongst Saudi Universities on the initiative of the School of Environmental Design, Jeddah. This was the "Council of Schools of Environmental Design Professions". According to its un-official terms of reference two members from each of the four universities met together twice a year. The host university provided an agenda for discussion which was participated by a selected group of academicians from amongst its own teaching staff.

The Council continued to meet for four years till it was dissolved on being found to lack official recognition by the Ministry of Higher Education. The author participated at all the meetings of the Council except one as a member of the King Abdulaziz University team. The Council was a very useful tool and the only one of its kind operating in the Kingdom where academic matters were mutually discussed and every one benefited. There has not been an equivalent replacement.

CHAPTER ONE:

SCOPE OF THE STUDY

"...Except where specifically religious buildings are concerned, theology has not been expected to make much of an appearance in the discussion and design of contemporary architecture.

But there is increasing evidence to suggest that, in the context of Middle Eastern developments, it may become a consideration which will not in future be able to be ignored, alike by designers who have themselves been educated in an Islamic environment and by expatriate consultants from other cultures...

That the role of the latter may have to change radically is now being widely admitted on both sides - for example, in the paper by Lord Llwllyn-Davies [presented at a conference in Bahrain, Nov. 1978].

Such an admission, by one of the leaders among the expatriate consultants upon whom the Middle East has relied so heavily in recent years, is, of course, as much an intelligent reaction to the emergence of an Islamic cultural self-identification as a voluntary acceptance that not everything the West has put into the Middle East in the last two decades is necessarily good for it...

But even without the political impetus it appears to be mustering, Islam would still, by now, be manifesting itself as a force to be reckoned with by all who are concerned with design and development in the Middle East.

For there is a powerful cultural dimension which gives much of its strength to the political one and, to an extent which it takes an effort to appreciate in a Western context, this is underpinned by a living theology...

At this [Towards an Architecture in the Spirit of Islam] inaugural seminar the opening address...was given by the Islamic philosopher and theologian Professor Seyyed Hossein Nasr, with telling points. ... Some had a general application...But his argument went much further. "There is certainly no excuse for the Muslim countries to repeat the errors of Western urban development...one cannot suggest a more obvious first step than the training of Islamic architects, men and women, who are committed to specifically Islamic architecture, rather than those who practice Western architecture with the claim that it is international"

Can anyone be confident that, in the present climate of a resurgent Islam, such a first step will not, one day, be taken?.."

From the Editorial of Middle East Architectural Design
Vol.2, No.1, January/February 1979 (underlines added)

i- SETTING THE SCENE

"Islamic Architecture" as a distinct area of interest is a recent phenomenon in the world of twentieth century architecture. Although the same or similar terms have been in use, they have had a different and restricted connotation among western writers and theorizers of architecture. Saracenic, Moorish, Oriental, and Islamic were often interchangeable terms which referred to little beyond the picturesque, ornamental designs with intricate geometric formations and plenty of arches and domes of any and every conceivable composition.^[1] Islamic architecture has not been accorded as serious a scholarly attention as was showered upon, for example, Egyptian, Greek, Roman, or Romanesque periods of architectural history till modern times. The legitimate succession route for western civilization excluded the Islamic experience.^[2] Otherwise any recognition of worth in the decaying, neglected but unique environment of Muslim settlements came at best from an intellectual curiosity in eccentricity or extrovert individualism, or at worst from the inevitable need of a businessman to make his merchandise more marketable in lands of Islam.^[3]

Of late some intermittent observations started to appear in the West suggesting that there may be something more serious in things referred to as "Islamic Architecture". The editorial of the "Middle East Architectural design" quoted above, is one of the few who must be credited for appearing in print (possibly for the first time in the past few decades) with the clear statement that "theology" can be considered as an element of the "architectural" effort.

One may detect a tone of slight concern even anxiety in the last paragraph, that "Islamic Architects, men and women, who are committed to specifically Islamic architecture" will one day be trained. Whether out of a negative concern for an imminent but unspecified danger or out of a positive concern for a better environment for all human beings to live in, the writers and academics of the Western Hemisphere must be credited for establishing "Islamic Architecture" as a topic of discussion. The reference to the Western Hemisphere here is deliberate. As a consequence of the immense energy and resultant change that issued forth from the Industrial Revolution, the West acquired the monopoly of academic activity as well as the political superiority in most fields of sciences including the field of Architecture.^[4]

Whilst the West was scaling further heights in its endeavours, the Eastern Hemisphere was falling into a state of gradual torpor in terms of political authority and fields of physical sciences. The intelligentsia of the regressing or colonized East who succumbed to this overpowering dominance, changed their earlier rejection of anything associated with western civilization into one of open acceptance. In so doing they did not attempt to differentiate between the technological and methodological components of a field of study from its sociological and ideological component. Taha Hussain, for example, the modernist scholar of Egypt, is reported to have said, "let us adopt western civilization in its totality and all its aspects, the good with the bad and the bitter with the sweet".^[5]

The way that "Westernization" was made into an article of faith by the leading nationalist thinkers and writers in the emerging new Turkish Republic in 1930s became the model of expression amongst Muslim intellectuals and politicians of the age in other Muslim countries. As a result western ways and scientific endeavours became the goal. The results became more visible in the physical environment as western concepts of architecture started to dominate the field of building activity and its forms were transplanted in the late nineteenth and twentieth centuries upon Muslim settlements. Seyyed Hossein Nasr has a very penetrating and clear perception of this state. He writes:

...It might be thought that the dilemma of the contemporary Muslim under the influence and the pressure of modernism is limited to the intellectual and educational realm, but this is far from true. Actually a crisis of the same intensity, and perhaps of an even more direct effect, exists in the world of forms with which art is concerned. In this domain, the remarkably homogeneous yet diversified world of Islamic architecture has been at a peak during nearly all of its long history and can be cited as a supreme example of that architecture which Goethe referred to as 'music grown silent'. Today, in many Islamic cities, architecture is no longer music grown silent but sheer noise and cacophony petrified. An art which was a direct call from the Centre and which reflected the Centre and the Transcendent in nearly everyone of its forms is now threatened by an 'art' of the most debased and opaque nature whose source of inspiration is revealed by the veil of ugliness with which it shrouds the environment.[6]

The phenomenon of "petro-dollars" helped to speed up this process immensely in lands giving allegiance to Islam, providing a sudden and foreign display of forms in its physical environment. However, sentiments of concern were soon voiced with the negative consequences of this unmistakable change in the social, political and related aspects of the societies concerned. This forced the local power centres towards "nativization" of the physical "looks" presented by new public buildings as expressions

of this new wealth in order to make the ostentatious built forms more "acceptable" to the masses. The solution adopted was that of covering of buildings in a pastiche of local idioms, vying with each other for attention, hoping that these will be less contentious than the outright copies of western forms.

The period also coincided with the rise of the semi-historicism in the United States of America as evidenced in the works of leading architects like Yamasaki, Stone, Philip Johnson, "coated in sparkling versions of Islamic grilles and frills"^[7] These fashionable designers would be willing to provide a helping hand to the demanding clients of Muslim lands too. One can see this in the Institute of Science and Technology of Stone in Islamabad - Pakistan (1967), looking like an arcaded Mogul mausoleum with its domed nuclear reactor, and a minaret like structure covering its exhaust system, or Dhahran Airport Terminal of Yamasaki in Saudi Arabia (1965), dressed in islamized gothic arches.

As a consequence, interested centres of the developed world began to mobilize all the market forces of the West in order to capitalize on the abundance of excess funds in these countries. The more "Islamic" a design looked, the more chance it had of being accorded acceptance if not outright accolade. It can therefore be argued that "Islamic Architecture" as a concern area is also a commodity that did not germinate from an academic sensitivity nor arose in the lands that it is supposed to have existed in. One 'successful' outcome (if it may be called that) of this disparate jumble of activities was to give international currency to terms like "Islamic Art", "Islamic Architecture", "Islamic

Culture", or "Islamic Civilization" that these terms never ever enjoyed in history as topical titles. Of course none of the terms were ever clarified with an acceptable degree of exactness.

Following the emergence of a new intellectual interest in things "Islamic", especially amongst Muslim students studying in western institutions of learning and amongst concerned Muslim thinkers in the East, and in response to the dissatisfaction felt with the hegemony of the materialism, "Orientalism" as a respectable science and to some extent "Islamic Architecture" as a field of "orientalist scholarship" came under increasing scrutiny. The late sixties were the years during which this concern simmered and produced a number of intellectual groupings amongst Muslim students as well as professionals. Members of these groupings would later disperse into the Muslim world becoming themselves small centres of catalytic activity affecting the thinking of local intellectuals.

The first signs of this interest was a shallow consideration that any western discipline can be dressed up to look "Islamic" by adding the word "Islamic" as an adjective to the name of the discipline. Coincidentally with this, development funds became available for works which provided a certain amount of credibility to the current understanding of "Islamic" western disciplines. Such funds would attract a number of Western academics into the arena. Up to then "Islamic Art" rather than "architecture" was a more familiar theme amongst these circles. Reputations already achieved in the field of Arts provided to some the necessary credentials to enter into the architectural arena as

well. In the meantime, native institutions in Muslim lands that had a reason to own up to anything related to their own culture remained oblivious to the concern. The mid seventies were the years when a change began to emerge. With increasing speed international, national as well as localized institutions began to assemble together various "Islamic" acts. The World of Islam Festival was probably the first and the most spectacular of all, putting on the biggest and most expensive kind of "Islamic" culture show in London and other parts of the United Kingdom in 1977. [8]

In such an environment there arose a number of approaches, some particular, others of a general nature to the field of this study. One group, supported by rich funds of a number of Muslim benefactors, recruited established names and educational institutions in the West to define and develop the concern area along the well established methods of western scholarship. The "Aga Khan programmes for Islamic Architecture" at Harvard University and M.I.T. is one such activity that specifically took up the subject area of "Architecture". The amount of published material that this group, together with its more secularly named professional twin, "The Aga Khan Award for Architecture" based in Geneva, has managed to put out, is considerable. [9]

A number of other institutions have also emerged in Europe, either attached to existing academic institutions or as independent establishments addressing themselves to different "islamic" concern areas. Oxford University has recently sponsored an autonomous Centre for Islamic Studies, while the Cambridge Centre for

Islamic Education has been in existence since 1984. The "Islamic Environmental Design Research Centre" in Rome is another typical young institution that organizes scientific meetings and publishes a monograph on the theme. [10]

One very basic common approach that these organizations seem to have adopted for themselves at their inception was the validity of western methods of art research and concepts of art/architecture in cases of "Islamic" art and architecture too. Lately some major figures of western scholarship have started to voice misgivings as to the relevance or merit of this assumption. Remarkable in his "directness" is Oleg Grabar who was the first Aga Khan professor of Islamic Art at Harvard University. Referring to the western techniques of art research he states that:

There are...grounds for questioning the ultimate value of this technique of research, or at least its exclusivity, as the standard-bearer for scholarship and thought. First of all, this highly refined instrument is profoundly Western. The Muslim world did not participate in its development, and this immediately raises the fundamental question ...whether any culture can be meaningfully understood through the applications of techniques developed outside it. Second, the truly universal scholarship that was suitable for the intellectual elites of the beginning of the twentieth century has been made obsolete, if not destroyed, by the national, social, technical, and linguistic changes that have come since then. [11]

But the concern is again missed or misinterpreted by the same person who, as a "secular humanist" [12], refuses to see any transcendental or spiritual dimension and looks upon it as a kind of conservative notion addressing the issue as a nostalgic longing or "search for identity". Even within this humanist concern the matter is found by him to be:

Far too complicated an issue for international technology to

deal with, and the dislocation of elites from their own past over the last century makes it difficult to navigate between the shoals of fundamentalist rigidity, socialist innovation, intellectual and emotional discoveries of one's past through alien works, and any of a variety of intermediary attitudes. This is not an issue which can be dealt with by non-Muslims, at least not in a normative way, for ultimately it requires choices and decisions that derive from one's own search for identity.[13]

There is a new element introduced here which in itself is questionable, namely the separation of the 'non-Muslim' scholar from the concern area. This approach may find ready ears especially amongst those who have been coached in the same schools by scholars of Oleg Grabar's stature and willing to echo exactly the same sentiments as their mentors that may find more credibility seemingly emanating from "Muslim" pens or mouths.

It should be stated that nothing bars a non-Muslim scholar, except a very dogmatic attachment to his own world-view and an inability to leave it even temporarily for the time of studying the topic, in order to understand things "Islamic". The only stipulation that one can make is that the study should assume the validity of the topic's own terms of reference, at least for the purpose and the duration of that study.

ii- MAJOR OPINION SHAPERS

Having reviewed in very broad terms the way that "Islamicity" of the environment became a topical issue, three specific institutions will be selected as illustrations for a more detailed comment because of their pre-eminence in the arena of intellectual enquiry pertinent to the topic.

1. AGA KHAN AWARD FOR ARCHITECTURE

The first of these is the already mentioned "Aga Khan Award for Architecture" organization based in Geneva. This institution was apparently established as a philanthropic cultural foundation along lines already proved successful by its western predecessors. Through its sheer weight as a well funded programme it is indirectly trying to "guide" the concern area in a particular direction. It has already carried out ten seminars at different intervals, the last one in Granada, Spain in April 1986, pertinently on "Architectural Education in the Muslim World". [14]

The Award organization has not deviated from its central purpose, with more or less the same persons steering its course since its inception. Having established a successful format that produced the seemingly desired results similar scenarios have been implemented over and over again. The only change that can be perceived is in the additional scholars invited to an already established core group, depending on the specialized nature of the topic or activity. The seminars, which provides the intellectual environment for the organizations activities, assemble in different places each time, even China being within bounds. The deliberations of the invited scholars are also very seriously followed by the patron, the Aga Khan, and his immediate family members giving an aura of a latter day Congrès Internationaux d'Architecture [Islamique] Moderne to the whole affair.

To further clarify this approach and its main parameters, the first seminar will be taken up quoting from its proceedings at some length. [15] This particular seminar was significant in being

the first high powered meeting of an interesting array of top names in the field representing every conceivable hue of thought. It was also significant because of its composition as it brought into full vision the contradictory stands of the participants and carried with it the un-posed question mark of the coherency or congruity of the exercise. Not less in significance is the financier of the whole effort, the Aga Khan himself, who heads a small but economically influential sect of Muslims outside the orthodox mainstream. He should be credited with the vision that his more worldly endowed and politically powerful fellow communal or national leaders have not been blessed with. The record of his earliest awareness of the reality of the built environment in the lands inhabited by Muslims can be found in a speech given to the National Council of Culture and Arts of Pakistan in 1976, where he is recorded to have observed that:

...No art form in the Muslim world has suffered from the insidious influence of alien cultures as much as architecture. Yet it was only a few hundred years ago - a fragment of time in the great span of human history - that architecture became the greatest of Islamic cultural art forms.[16]

His welcome address to his scholar guests at the first seminar held in April of 1978 in Aiglemont, Gouvieux, France, expressed both his cosmopolitan upbringing as well as the perception of an intelligent observer.

...Many of us here speak several languages, and I am sure we would agree that our ability to communicate in several tongues sometimes impedes our expressing ourselves clearly in any one of them. If our command over several languages can erode our precision of expression, I wonder how much more quickly our eyes lose their ability to discern the integrity of a visual language. The indiscriminate exposure to many different kinds of visual languages must not lead us to blindness...[17]

So in order to arrest this slide into architectural blindness, the first seminar was held. But how did the specialists who would be doing the arresting look upon their role? One of the seminar members, in a moment of truth or oversight, unfurled his colours and unbelievably somehow got it recorded in print as well!

Many of us at this conference are what I would have to call cultural or technocratic mercenaries, hired intellectual "guns" who move about the world from one country to another giving counsel, doing "quick studies", relying on accumulated knowledge, on too-weak data and too little experience and too often only on intuition; overprogrammed, rushed, and beneath it all, dreadfully unsure of ourselves and our various medicines and recipes. Yes, mercenaries, without uniforms or guns, but potentially just as lethal. Travelling medicine men.[18]

Knowing that the company included such figures as Sir Hugh Casson, Mr Charles Correa, Professor William Porter, Mr. Hassan Fathy, (all members of the Award Steering Committee), in addition to the late Fazlur Rahman Khan of S.O.M., Mrs. Yasmeen Lari, the Pakistani architect, Professor Oleg Grabar of Fogg Museum of Art, Harvard University, Professor John F. C. Turner of Development Planning Unit, University of London, (actually a total of 32 in addition to the family members of Aga Khan) one presumes that a few faces must have contorted badly in listening to these remarks. Obviously one would absolve some of the names assembled from the implications of this stark observation but its bold statement might have brought some sense of seriousness to the proceedings... The keynote address was given by the then director of the Imperial Iranian Academy of Philosophy, Professor Seyyed Hossein Nasr. An eminent person with considerable number of worthy books to his name, he kept to his already established esoteric line of enquiry that does not go down well with some "secularized" muslims. He defined the task of the seminar as:

...Study the transformation which have taken place within the mind and soul of the contemporary Muslim and which has brought about that inner chaos whose externalization is to be seen in the architectural creations of much of the contemporary Islamic world. The external environment which man creates for himself is no more than a reflection of his inner state. As the saying goes, "As inside, so outside".[19]

He placed the responsibility for the ensuing environmental result squarely on the shoulders of a minority of secularized elite possessing an influence far beyond their numbers. According to Professor Nasr the modernized Muslim (one of the secularized elite), like the modern western whom he emulates,

...wants to build homes as if he were going to live forever and construct cities whose very existence is based on defiance of nature, the violation of her rhythms and depletion of her resources. The secularized wish is to create an ambience in which God is forgotten, which means creating an urban environment in total disequilibrium with the natural environment. This environment is created by God and is itself a reminder of the Divine, which gives the lie to the very notion of secularism.[20]

He sees the remedy in establishment of schools that would train Islamic architects. However,

...the establishment of such schools and institutions requires the revival of Islamic arts and sciences, and the rediscovery of the spiritual and metaphysical principles of these arts and sciences. This means that, ultimately, Islamic architecture cannot be revived unless the contemporary Muslim is reborn, and the shackles of Western cultural and philosophical domination are overthrown.[21]

Whether for these views or as the fall-out of the political changes in Iran, Professor Nasr did not appear at subsequent seminars of the "Award".

The "keynote commentary" on the "keynote address" was prepared by Professor Dogan Kuban of Istanbul Technical University. Identi-

fyng himself as a "historian of architecture...and with entrenched beliefs in modern state secularism" he professed to deal with Islamic architecture at a "different level" than Professor Nasr, whom he labelled as "a philosopher and cultural historian". Even so he was amazed to see such a discordance of interpretation between them, based on similar observations. He had a completely different view. According to him "...One cannot say that a modern secularized Muslim architect, being deprived of his religious sustenance, cannot create an Islamic architecture. One cannot separate the architect from the society." Kuban looked upon secularism as one of the "answers" to overwhelming questions created by rapid change, though he consented that it did not provide the whole answer. However, according to him, "...Secularized Islamic society is still an Islamic society". [22]

Dogan Kuban was very forthright in his views, as he further clarified in a later discussion.

...Islam as a unity is a myth created by Western scholarship in its stage of infancy, when Islam was still considered an historical entity contrasting with the Christian West and interpreted essentially as a religious attitude. [23]

Professor Kuban finally posed the crucial question giving his own concise answer which, one may add, is subscribed to by a good many more like himself.

...What does Islamic architecture mean? I think something created by those people who call themselves Muslims. It is as simple as that. I can say that I am a Muslim, but I prefer secularism... [24]

The rest of the contributions oscillate between these two extreme views: on one hand the views of the mystic Muslim scholar who

somehow cannot shed his romantic dreamer shield and on the other the views of the secular Muslim scholar who is not concerned with the contradiction posed in having loyalty to a secular psyche and an Islamic identity at the same time.

To fill the gap in between these two extreme views some of the participants provided archaeological glimpses and insights, others shared their social observations of dubious value [25], a few threw light on various terms of the built environment by linguistic evaluation and finally, those who have been humbly catapulted amongst the noted in international forums, added their solemn observations to heighten the intellectual level of the discussion with profound pronouncements such as:

...At one time, I thought that India was very lucky to get le Corbusier. Now I realize that le Corbusier was very lucky to get India. [26]

Despite the sentiments encouraged to be expressed or the aura of "Islamicity" in which activities are couched, no seminar of the 'Award' has been made significant by identifying any role to theology, (notwithstanding the comments of the editorial quoted at the beginning of this chapter), or to Muslim jurists and scholars actually dealing with the principal sources of Islamic sciences. As such none of the contributions are screened to separate relevant data from the irrelevant or irreverent.

2. WORLD CONGRESS ON MUSLIM EDUCATION

The second institution that will now be considered is the Makkah-based 'World Congress on Muslim Education'. Looking upon godless

materialistic nature of modern science, the inhuman suppression of the individual by modern technology, and secular humanism that seemed to contaminate graduates coming out of Western style universities as the three root causes of the decline in Muslim culture and the associated loss of a credible, authentic Islamic identity. The Congress focused attention on "education" in general and "tertiary education" in particular.

The prospect of planning a real and responsive Islamic educational system has been looked upon as the panacea for all perceived ills of the Muslim world. This task had attracted to its fold a number of well meaning scholars and the generous patronage of philanthropists. The first tangible result appeared in 1977 in the form of the "First World Congress on Muslim Education" convened in Makkah (31 March-8 April 1977). The organization maintained its impetus over the years, the whole affair receiving a semi-official inter-ummah character. The second Conference was held in Islamabad-Pakistan in 1980 on the theme "Curriculum Design", and the third in Dhaka-Bangladesh in March 5-11, 1981 on "Text-book Development". The last one that took up the issue of "Teaching Methodology" was held in Jakarta-Indonesia in August 23-28, 1982. [27]

The issues themselves do not have a radical or revolutionary characteristic in the field of educational technology and are currently addressed to all over the world. However this particular effort has managed to institutionalize itself by establishing a number of active units. The "Islamic Academy, Cambridge" is one of its offshoots aiming at dissemination of the gathered informa-

tion mainly for the perusal of a the non-Muslim audience. The journal "Islamic Education Quarterly" is also one of its productions containing scholarly articles in the area of interest. There is another institution associated with the same activity, The World Centre for Islamic Education, affiliated to the Umm al-Qura University in Makkah. It is used as another means of disseminating information regarding the issues dealt with. It also produces a magazine though as a presentable scholarly publication it leaves much to be desired.

More important to our particular area of study is the concerted thinking amongst the Conference circles to develop a model of an "Islamic University" to replace the Western equivalent for tertiary education. Despite the astronomical sums that were lavished in the early days of the Conference and the enormous amount of human endeavour put into it, the resultant intellectual achievement has been minimal. There is a widespread feeling that results either lack a grasp of the pertinent issues or have little practical relevance to actual needs of Muslim communities in the substance of their proposals. No wonder than that the secularized section of the "Muslim" intelligentsia looks with uncharitable ridicule at the unproductive efforts of these well meaning personalities with otherwise commendable aims and noble dedication and commitment to the cause.

Despite this observation one important manifestation of the intellectual consciousness aroused in the Muslim world for education by these conferences has to be recorded. This is the emergence of "Islamic Universities" in different Muslim countries as

well as private institutions of learning both in Muslim and Western countries. Apart from those that deal with specific theological topics and the dogma of the faith only, two particular establishments may have relevance to our topic in future because of their inclusion (though not yet implemented) of technical and engineering concerns in their curriculum structures in keeping with the general ideals subscribed to by this study. The "International Islamic University" in Islamabad, Pakistan and the "International Islamic University of Malaysia" are two such institutions providing the first "prototype" models as well as the means for developing a theory in the formative phase of a very stimulating young activity sphere in modern times for Muslims.

In one of their latest monographs Hamed Hasan Bilgrami and Said Ali Ashraf of Islamic Academy - Cambridge, cover the accumulated material and understanding achieved on the topic of "Islamic universities" since the First Conference referred to earlier. They contrast the western institutions active at present with the theoretical model of an Islamic university.^[28] Ziauddin Sardar, an observant commentator on Islamic issues, took up the same topic in a review article in which he commented critically on the Bilgrami and Ashraf Monograph. He assembled a number of principles that he thought should identify the particular nature of an Islamic University. Some of these are presented below as an indication of the thinking on the topic.

...What is Islamic about an Islamic university then, is that it is an uncompromisingly universalist institution where all branches of knowledge are pursued within an ethical and methodological framework which is unquestionably Islamic.

...The main objectives of Islamic universities should be to build a comprehensive foundation for the reconstruction of Muslim civilization. As such they are service institutions which generate and provide the knowledge base which supports and carries the Muslim civilization forward.

...The new Islamic universities cannot be based on a false dichotomy of religious and secular, rational and non-rational: by the very fact that they provide a knowledge base for Muslim civilization all knowledge they cultivate and generate, whether based on reason or revelation, must be Islamic. (This, however, should not be confused with the Aristotelian fallacy that the pursuit of all knowledge is virtuous...) Moreover, because the Islamic university aims to infuse the spirit into every human endeavour, every discipline, they must minimize their artificial disciplinary divisions which are dominant today. Neither nature, nor reality comes divided into neat subjects labelled 'physics' or 'economics' or 'design' or 'political science'.

...Islamic university...is a normative institution...A normative academy owes its loyalty only to norms and values that shape its outlook and goals. And it is the objective and universal values of Islam - those which are enshrined in the concepts and injunctions of the Qur'an and about which there is no doubt for believing Muslims - which have the ultimate loyalty of an Islamic University. Within the normative framework of these values, there is complete freedom of inquiry and academic work.[29]

Having gone over these characteristics Sardar also addresses himself to the setting up of such an institution. In doing so he seems to accept the "International Islamic University of Malaysia" as the correct model to which his description corresponds whilst being critical of the Islamabad model.

...The core of each Islamic university must be an outreach research and development programme geared to the study and contemporization of the essential concepts of the world-view of Islam...To make traditional thought relevant to contemporary and future times, the outreach programme should be structured on a conceptual matrix: as such, the programme should have 'departments' devoted to the study and contemporary understanding of such key Islamic concepts as Tawhid [The Cardinal Islamic Concept of Unity], Risalah [the Message and the Mission of the Prophet], Khilafah [Vicegerency/ trusteeship], Ibadah [Worship, devotion], Adl [Justice], Istislah [Public welfare/Common good] and Shariah [The Normative Code of Islam].[30]

Diagrammatically this is represented by Figure 1 A. To show its

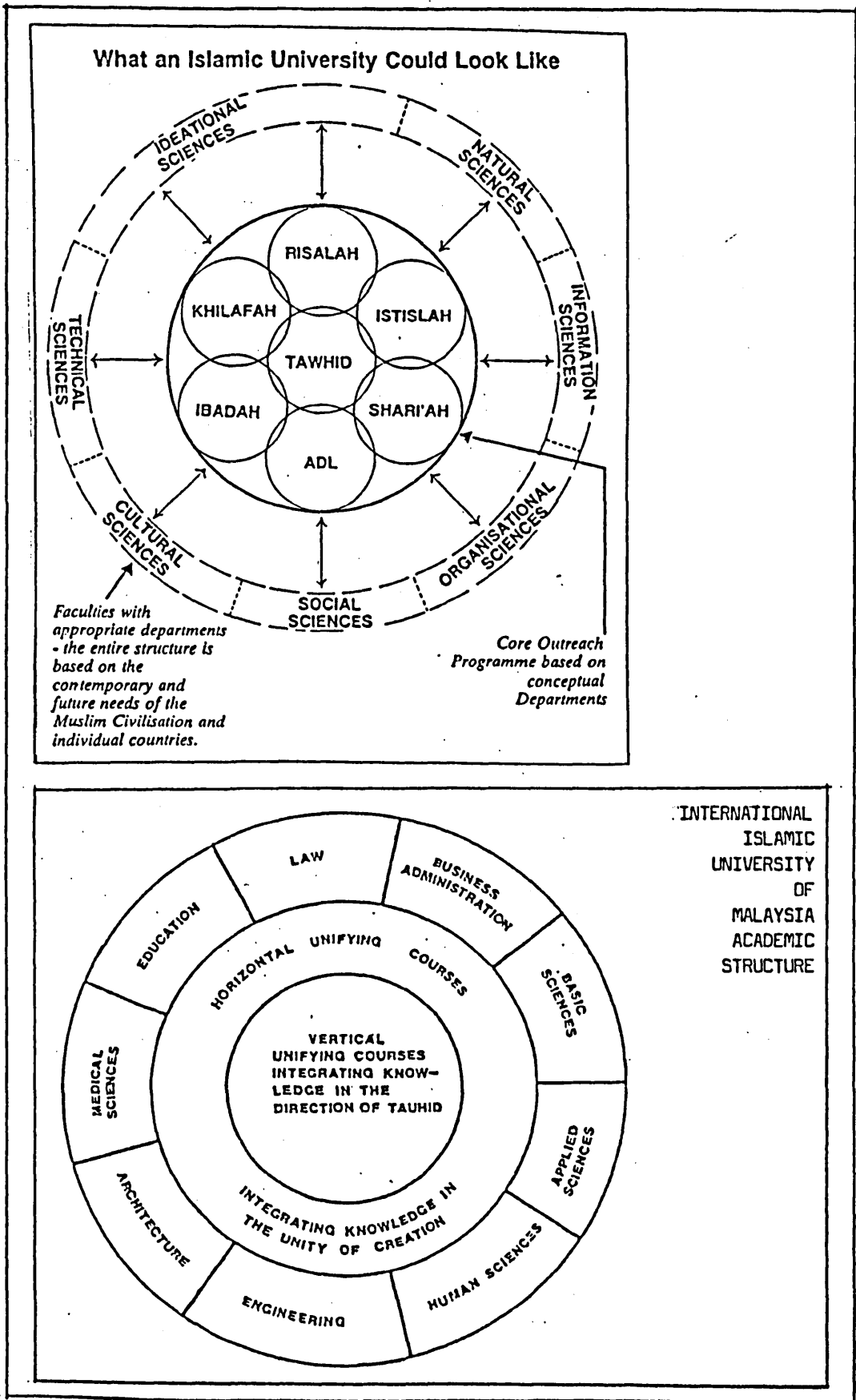


Figure 1. a- What an Islamic University Could Look Like (After Serdar)
 b- Academic Structure of International Islamic University- Malaysia

affinity with the Malaysian model the structure of this is also provided in Figure 1 B as given in its handbook of 1984/85. [31]

Sardar is after contemporization and interested to shift from rigid traditional moulds to dynamic conceptual analysis and synthesis models that would take Islamic thought forward. Thus he suggests that around the proposed core outreach programme of an Islamic university a structure is built that can be appreciated in modern terms. The only difference with the case of the Malaysian example is the substitution of a number of functional categories in place of the traditionally familiar terms. These are identified as ideational, scientific, technological, informational, organizational, social and cultural. Academic structure is developed around these categories.

Thus, for example, an Islamic university could have kulliyah/faculty/schools/institutes/centres around each of these categories with appropriate departments [varying from country to country reflecting local needs and strengths]... For example Kulliyah of Technical Science could have departments of environmental technology, material technology [etc]. [32]

Sardar is conscious that the structure suggested, despite his criticism of other western styled examples, appear to retain old forms. However he maintains that in his suggestion one major area of difference is the avoidance of individual world-views to each and every discipline in favour of one single [Islamic] world-view at operation. The Norms and Values of this single world-view shape inquiry and academic work in each discipline. In this model therefore real interdisciplinary research has no boundaries.

...When results of research based on narrow, disciplinary parochial world-views are applied generally, they lead to serious social, economic, class, sexual and cultural dislocations. In contrast, the fruits of research derived from

disciplines based on unified and universal world-views are much more likely to have universal applications.[33]

As a conclusion Sardar takes up the product of this normative, interdisciplinary institution based on a unified world-view. The graduate from such an institution will be:

...A creative individual who does not only understand but is also capable of synthesizing Islam to his/her personal and societal needs. An individual who is not only socially responsible but also technically virtuous. An individual who does not only appreciate the dictates and complexities of contemporary life but can also adapt to a changing future.[34]

Well, one may not object to this as long as the ideal is achieved through establishing a really working model. As observed earlier the whole area is yet in its infancy and despite signs for its impending emergence still lack a clear intellectual drive, a sound and solid theoretical basis and more important than all, a powerful sponsor convinced enough to provide the political support and funds needed for the prototypes to grow into functioning and productive models that really deliver the goods.

3. INTERNATIONAL INSTITUTE OF ISLAMIC THOUGHT

The third and last organization that will be taken up is the Washington based "The International Institute of Islamic Thought". It is one of the many institutions that developed and matured through efforts of various Muslim scholars and student organizations active mainly in American universities. Its power base was Western academic institutions staffed by muslim scholars who questioned the whole spectrum of previously mentioned approaches as irrelevant to the nature of the field.

Whilst an increasing number of academics trained in the western institutions were becoming available to staff and develop institutions in muslim lands according to their western models, an expanding number of troubled minds have generated a fresh line of enquiry. In this approach the carbon copy western models are rejected and the field of education is entered into conceptually, as befits any pure and original scientific field of enquiry. This is even more necessary when specifically "Islam" is involved and thus a particular system of thought is inferred. One of the leading scholars of this group, and the first President of the said Institute was the late Professor Isma'īl Rājī al Fārūqī of Temple University, Philadelphia. Taking up issue with the determined attempts at secularization and westernization of educational systems in Muslim countries he had this to say:

Despite all claims to the contrary, the result achieved is not the Western model, but a caricature of it. Like the Islamic model, the Western educational model rests ultimately on a vision, though different from that of Islam, and is animated by a will to realize that vision. Buildings and offices, libraries and laboratories, classrooms and auditoria teeming with students and faculty are all material paraphernalia of little worth without that vision. It is of the nature of the vision that it cannot be copied. Only its incidentals can. That is why in nearly two centuries of westernized secularized education, the Muslims have produced nothing - neither a school, college or university, nor a generation of scholars - that matches the West in creative excellence. The insoluble problem of low standards in Muslim World institutions is a necessary consequence of this lack of vision. There is no genuine search for knowledge without spirit: the spirit is precisely what cannot be copied. It is generated by the vision of self, of world and reality: in short, by religion. Muslim World education lacks vision. Its leadership does not have the vision of the Western man by necessity: and it does not have the vision of Islam by choice...[35]

Similar points are made by numerous other Muslim scholars too. However, Faruqi's enormous contribution is in the field of translating his views into action programmes in the whole scheme

of restructuring the Muslim educational system. The generic title used for this purpose is "Islamisation of Modern Knowledge". He continues further to identify the task involved as:

The task of Islamizing knowledge (in concrete terms, to Islamize the disciplines, or better, to produce university level textbooks recasting some twenty disciplines in accordance with the Islamic vision) is also the most difficult. No Muslim has yet contemplated it enough to discern its prerequisites, or to articulate its constitutive steps and measures. All that our previous reformers had thought of was to acquire the knowledge and power of the West. They were not even aware of the conflict of Western knowledge with the vision of Islam. It is our present generation that first discovered the conflict as we lived it in our own intellectual lives. But the spiritual torture the conflict has inflicted upon us caused us to wake up in panic, fully aware of the rape of the Islamic soul taking place before our very eyes in the Muslim Universities.[36]

In line with these sentiments al-Fārūqī has put forward a work-plan that has five objectives:

- (1) To master the modern disciplines.
- (2) To master the Islamic legacy.
- (3) To establish the specific relevance of Islam to each area of modern knowledge.
- (4) To seek ways of creative synthesis between the legacy and modern knowledge.
- (5) And to launch Islamic thought on the trajectory which leads it to fulfilment of the divine pattern of Allah.[37]

These objectives are proposed to be achieved through twelve systematic steps which are given as Figure 2.

The International Institute of Islamic Thought was founded in 1981 with the intention of pioneering a broad based intellectual movement to think anew the epistemological basis of contemporary Islamic thought. It has promoted a research programme of its own and established a wide front of co-operation amongst interested scholars and establishments aiming at the mobilization of

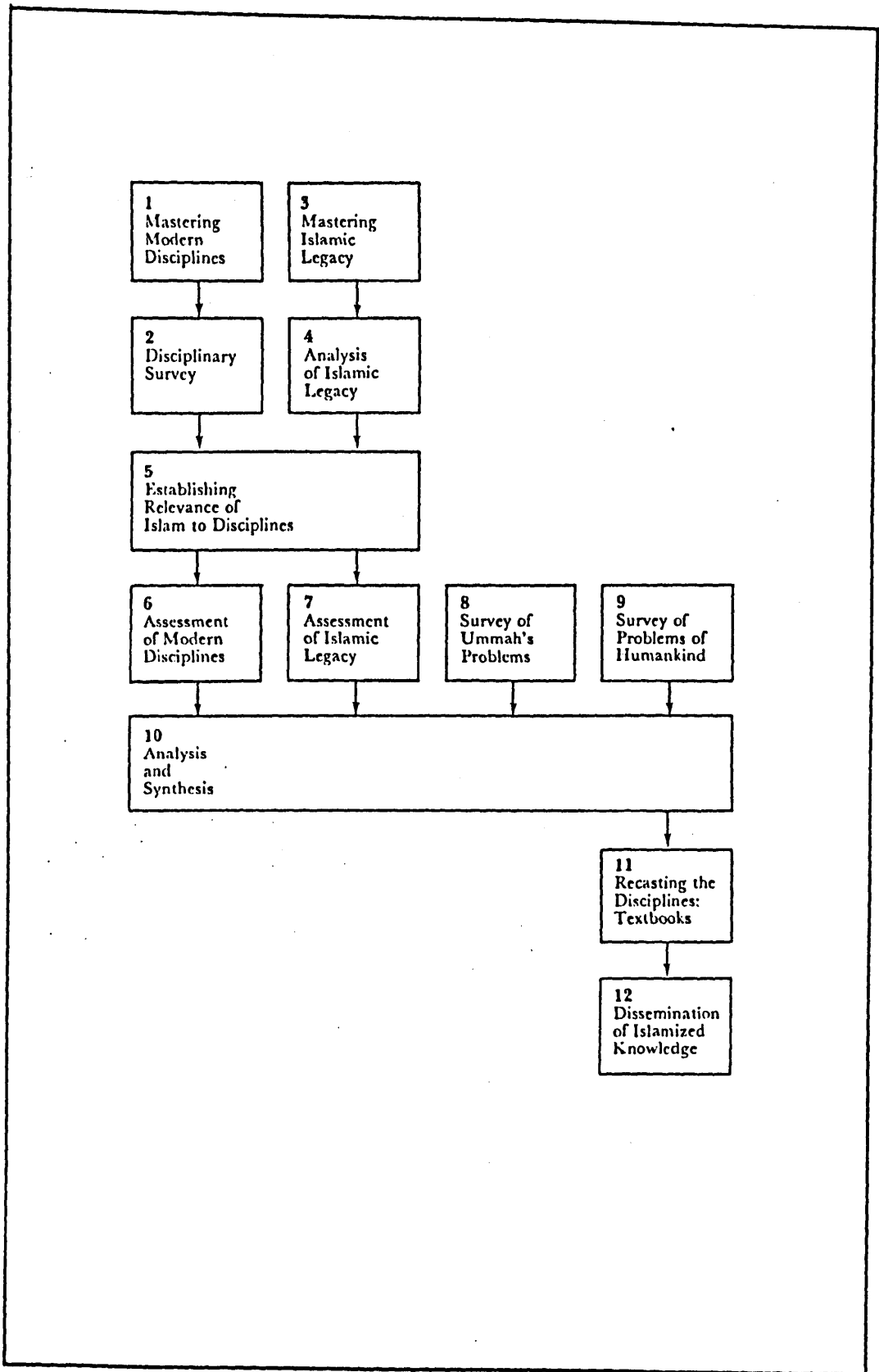


Figure 2. Al Fārūqī's Programme for the Islamization of Knowledge.
(After Sardar)

available manpower amongst the Muslim intelligentsia. To this end it has organized three international seminars under the generic title of the "Islamisation of Knowledge". It has thus become one of the pioneering institutions in the emerging movement of recasting the foundations of modern disciplines along the principles of Islam. [38]

The following study is a humble effort that has sympathy with this last line of approach, at least in its attitude towards the concerns. The procedure as proposed is different and aims at defining the field, firstly, from the original sources of Islam and not as an established modern discipline. It is felt that professional roles to be assigned, parameters of the fields of concern, as well as the interrelationships between various related disciplines that may make up the totality, can be substantially different from those accepted in the modern practice. The effort at delineating the field would include all the relevant parameters that such a field would demand from Islam's point of view and be defined at the start.

NOTES ON CHAPTER ONE

- 1 Earliest awareness of the "orient" was due to publications like Johan B. Fischer von Erlach's *Entwurff Einer Historischen Architectur*", first published in 1725 and translated into English in 1730 and again 1737. The result of this gradual visual exposure added colour to the Romantic revivalist fashion in 19th. century England. For example Michael Derby gives interesting information in the book published as companion to the Exhibition held at Leighton House Gallery, Kensington. He writes:

"The interest of British Architects in Islamic buildings tended to concentrate on their picturesque qualities...for most part the influence of this and other Near Eastern buildings was felt in garden architecture, where 'Mosque' and 'Turkish Tent' readily joined the repertoire of exotic structures suitable for adorning country house parks."

"Edward Marmaduke Clarke obtained a charter in 21.2.1850 for a company of Royal Panopticon. The building they put up for this purpose, completed in March 1854 was given a lot of thought, finally choosing for it 'The Seracenic or Moorish' Style, 'as a novelty'."

In, Michael Derby, The Islamic Perspective - An aspect of the British Architecture and Design in the Nineteenth Century, (London: World of Islam Festival Trust, 1983), pp. 10, 126.

- 2 Chris Abel, in a recent article he wrote for The Architectural Review, makes a similar observation:

"It seems astonishing now, that though western students of architecture are still taught the beginnings of civilization in Mesopotamia, and are familiarized with the monuments of ancient Egypt, history lessons should thereafter abruptly change location, to be directed to the northern coasts of Mediterranean, never to return further south. If we consider also that it was the diligent efforts of Arab scholars in resuscitating early Greek science, that eventually helped fuel the European Renaissance, the irreversible leap across the Mediterranean looks mightily suspicious. Add to this that the European 'Dark Ages' coincided more or less with the 'Golden Age' of the Islamic Empire and the eurocentric pattern becomes lamentably clear.

See: Cris Abel, 'Regional Transformation' in Peter Davey, Ed. The Architectural Review, Nov. 1986 CLXXX No. 77, 37-43, (p. 41).

- 3 This observation is very clearly substantiated with the following statement taken from an article by M. F. Schmertz.

"...Today, we of the West are so involved with the Islamic World, for better or worse, that interest in their art and architecture must inevitably follow, as surely as addiction of late Victorians to the arts of Japan followed Commodore Perry's arrival in Tokyo Bay. Among

the most interested of all in the arts of Islam should be the U.S. and European architects and planners who are building entire cities, multi-billion dollar universities, giant airports and luxury hotels in Islamic countries. Many are incorporating what they believe to be Islamic forms in their work - domes, vaults, pointed arches, arcades, courtyards and fountains; and ornamenting them, rather sparsely, with traditional motifs..."

Mildred F. Schmertz, 'A Search for Meaning in the Architecture of Islam', Architectural Record, no. 8 (August 1980), 86-89 (p. 86).

- 4 That modern science has developed and matured within the confines of western civilization is a fact not requiring any supporting statements. However, its basic characteristic which expresses the western system of thought whereby what belongs to God is isolated from what belongs to Caesar has to be clearly identified. The intellectual and scholarly tradition which has produced the present state of modern science started to take shape during the period of Enlightenment in the 18th. century. Since then, as observed in the words of Lynn White Jr., all "around the globe, all significant science is western in style and method, whatever the pigmentation or language of the scientist". See: David and Eileen Spring, (Eds.) Ecology and Religion in History, (New York: 1974), pp. 20.

The same is true with the modern built-environment, as will be seen in the discussion of the developments in architectural education in the modern period reviewed in the next chapter.

- 5 Quoted in Ziauddin Sardar, Islamic Futures, (London and New York: Mansell Publishing Ltd., 1985) pp. 55.

A more telling comment can be quoted from a certain Kipling (probably father of Rudyard Kipling, who organised the first school of Industrial Art in Lahore in 1875) from the days of the British Raj. A certain Mr. Growse who was attempting almost single-handed an interesting revival of Oriental methods of design in Balundshahr district had an encounter with a native gentleman who wanted a house front built in the "English Fashion". To a suggestion by Mr. Growse that a design more in harmony with the national style would be a better proposition he gives this answer:

...The works which are carried under your direction, however pleasing in themselves, have the one fatal drawback that they are not stamped with official approval. ...Your buildings fitly express your own peculiarity of temperament, but this personal predilection for Indian forms is only a weakness or eccentricity; such designs would be out of harmony with my own more advanced views, which are all in favour of English fashions. The trading classes do well to adhere to Hindustani types, but the landed gentry prefer to range themselves with their rulers, and thus to emphasize their distinction from the vulgar.

J. L. Kipling, 'Indian Architecture of Today' in Journal of Indian Art Vol. 1 No.3, quoted by K. K. Mumtaz, in his Architecture in Pakistan, (Singapore: Mimar, 1985).

- 6 Seyyed Hossein Nasr, Islam and the Plight of Modern Man, (London: Longman, 1975), pp. 20.

Underlines have been added to identify a statement that is not shared with the author, namely the association of "form" as being what "art" is concer-

ned with in "islamic architecture".

- 7 The quotation is from Charles Jencks, who has a particular style of his own, using his brand of sarcastic humour in his various studies on the Modern Movement. In another instance he further elaborates on this phenomenon in the following words:

"...historicist regression, such as the Arab villages of Frank Lloyd Wright and Walter Gropius, the Neo-Gothic work of Yamasaki and Rudolph and the Neo-Liberty of Gabetti and Figini..."

Charles Jencks, Modern Movements in Architecture, 2nd edition, (Harmondsworth: Penguin Books Ltd., 1985) p. 325.

An important element in this attitude was the major buildings designed for the new Capital Islamabad of Pakistan. With less than one architect (in the western style) per million of people, Pakistan had to rely on the services of foreign architects for its Capital projects. Not all the world famous were willing to go along with the desires of the officialdom. For example Arne Jacobsen's uncompromising "Modern design for the Assembly Building was not found satisfactory, the Capital Development Agency suggesting that some "Islamic features be incorporated in the form of some arches in the cylinder, a dome above the cylinder..." Jacobsen was replaced by Louis Kahn, who was also in turn replaced by Edward Durrell Stone who was admired for his "love for Mughal architecture and the spirit of grandeur the Mughal buildings emanate."

Above extracts from, Kamil Khan Mumtaz, Architecture in Pakistan, (Singapore: Mimar, 1985) pp. 179-190.

- 8 World of Islam Festival Trust was established in 1973 under the chairmanship of Sir Harold Beeley, "to make an important and permanent contribution towards a new understanding of the Islamic and Muslim civilization in the Western hemisphere. For further information regarding the Trust see: Alistair Duncan, 'The World of Islam Festival Trust', New Horizon, no. 334 (January 1987), pp. 18-19.
- 9 The Aga Khan Award Foundation was established in March of 1978 with the specific aim to promote, encourage and recognize works and projects of exceptional quality and interest on an international scale. The prizes would be given for works in the spirit of Islam in various fields. Aga Khan Award for Architecture is the first award organised by this foundation, under the direction of a steering committee of prominent academics and practitioners. In addition to the award activities it organizes 'scholarly' seminars and publish their proceedings.

Aga Khan Programme for Islamic Architecture at Harvard and M.I.T., organizes summer workshops for professionals working in areas of Islamic cultures. A Master of Science course addressing to the 'Design for Islamic Culture' is implemented at present at M.I.T. under the supervision of Ronald Lewcock, Aga Khan Professor of Architecture and Design for Islamic Cultures.

The honour of conceiving the scheme rests completely with the Aga Khan himself. In an interview by Jim Antoniou (see 'Modernity and Tradition in Islamic Architecture', Middle East Construction, (August 1983), 14-15), the Aga Khan states that he got increasingly interested in the matter from 1957 onwards having inherited the Imamate from his grandfather. After initiating

a number of meetings on the topic he says that the steering committee he assembled and himself

"...came to the conclusion that for a long time to come, high technology buildings would be designed in the western world, and that many of the brightest architectural students from the Islamic world would be educated in western schools of architecture. The school of Architecture at M.I.T. was the one which seemed important to me (the Aga Khan). I was educated at Harvard. I knew that they had a very good centre of Middle Eastern studies and Islamic studies generally. So I approached the two universities and they agreed to put together, on the basis of a permanent funding from me, a programme for instruction in Islamic architecture."

- 10 The Islamic Environmental Design Research Centre has been constituted in Genzano di Roma, Italy. It has its offices in Loc. Poggidoro 14, 00045 Genzano di Roma. The Research Centre proposes to promote and co-ordinate higher studies and researches in the field of Architecture, of Town and Country Planning, regarding the countries of the Islamic World.

The Centre intends to have a full time core research staff. with Mr. Attilio Petruccioli as director.

The following extract is from the editorial of the first journal and gives some idea of intentions of the editor (and of course the Centre) though these may not be achieved all that easily:

"...The fact is that in the last 30 years, the western "cultural avant gardes", strenuously struggling as to the latest "isms", have failed to notice that in the majority of Islamic countries we are witnessing a radical transformation, spreading widely throughout the area (with all the tragic penalties that such a process of transformation levies on the environment), which can only be likened to the great colonizations and transformations of the countryside in the time of the Roman Empire. Ports, roads, two hundred and fifty new towns, have seen the light of day; they are looking upon control of the desert and of the marine habitat as a feasible reality..."

Attilio Petruccioli (editor), Environmental Design-Journal of The Islamic Environmental Design Research Centre, Rome (No date given but presumably in 1984.

- 11 Oleg Grabar, 'Reflections on the Study of Islamic Art, in Oleg Grabar (Ed.), Muqarnas - An Annual on Islamic Art and Architecture (Newhaven and London: Yale University Press, 1983) 1-14, (p. 2)
- 12 Oleg Grabar feels somehow obliged to own up to this in a review article that he wrote. See: Oleg Grabar, 'From Utopia to Paradigms', in Mimar-Architecture in Development, No.18 (Oct-Dec 1985) 41-45 (p. 44).

In this article, taking exception to stands assumed by some writers, he labels these stands as a "...relentless attack on what they [these writers] together with American fundamentalists, call secular humanism..." He tries to show a contradiction in their stand by identifying a "humanistic" element in early Islam and thus by implication their [these writers] rejection of this early Islam in the following words. "...the rejection of humanism is, first of all, the rejection of a Muslim tradition which had

flourished in the fourth through seventh centuries of Hijrah."

This lack of clarity as to how "islamic" is the perceived "humanism" in that period and whether or not it is compatible with the ideals and criteria that the system itself has set to itself through which any synthesis or rejection should be reached at, does not only afflict Oleg Grabar but many more scholars of lesser stature.

The interesting thing is that it was in the presence of Mr. Grabar that another scholar, S. H. Nasr identified which kind of humanism may be compatible with Islam. During the seminar (see note 15 below) in which the point was again raised, Seyyed Hossein Nasr agreed that it was possible to have an Islamic humanism. However this was possible provided that it was considered not as the Renaissance revolt against God but taken as the understanding of the nature of man and his importance in the scheme of things. He maintained that the Promethean myth does not exist in Islam. For most people in the West, humanism is taken as a negation of Heaven.

- 13 Oleg Grabar, 'Reflections on the Study of Islamic Art', in Oleg Grabar, (Ed.), Muqarnas - An Annual on Islamic Art and Architecture (Newhaven and London: Yale University Press, 1983) 1-14, (p. 3)

- 14 The titles of these seminars in the series 'Architectural Transformations in the Islamic World', and the places where they were held, together with their dates are given below. Each has its proceedings published as separate volumes.

- 1- 'Towards an Architecture in the Spirit of Islam'. Paris-France, April 1978.
- 2- 'Design in the Spirit of Islam', Istanbul-Turkey, September 1978.
- 3- 'Housing, Process and the Physical Form', Jakarta-Indonesia, March 1979.
- 4- 'Architecture as Symbol and Self Identity', Fez-Morocco,
- 5- 'Places of Public Gathering in Islam', Amman-Jordan, May 1980.
- 6- 'The Changing Rural Habitat', Beijing-China, October 1981.
- 7- 'Reading the Contemporary African City', Dakar-Senegal, November 1982.
- 8- 'Development and Urban Metamorphosis', Sanaa-Yemen, May 1983.
- 9- 'The Expanding Metropolis', Cairo-Egypt, November 1984.
- 10- 'Architectural Education in the Islamic World', Granada-Spain, 1986.

- 15 Renata Holod (Ed.), Towards an Architecture in the Spirit of Islam, Proceedings of Seminar One in the series 'Architectural Transformation in the Islamic World', held at Aiglemont, Gouvieux, France, April 1978, 2nd. edition.

The 119 page proceedings has a three page resume at the end that gives a summary of the contributions.

- 16 Reported by Mildred F. Schmertz in Architectural Record, March 1979, pp. 81-88.

- 17 Renata Holod (Ed.), Towards an Architecture in the Spirit of Islam op. cit., p. viii.

- 18 Ibid., p. 44. From the opening remarks of Jaquelin Robertson of Llewelyn Davies Associates of New York, recipient of a 1977 Progressive Architecture

Design Award for his Shahestan Pahlavi project in Tehran that was presented at the seminar. (Underlines added by me).

- 19 Ibid., p. 1
- 20 Ibid., p. 3
- 21 Ibid., p. 4
- 22 Ibid., p. 7
- 23 Ibid., p. 7
- 24 Ibid., p. 18
- 25 Ibid., p. 18. Professor Deniz Kandiyoti of the Faculty of Social Services, University of Bosphorus, Istanbul-Turkey, expounding his ideas on the implications of material culture for architecture, related his interviews in a village on the topic of religious sin. (Presumably there is also an unreligious variety of it as well). When these villagers were asked whether a picture is a sin he apparently got the following response:

"...The picture of Ataturk [founder of modern secularised Turkey, and famous for both his irreligious behaviour and military pursuits], is not a sin. The pictures on the stamps are not sins. Family pictures are not sins. This is a sin (pointing to the girl in her mini-pants on the [Goodyear] calendar). With regards to alcohol, they said wine is definitely a sin. Raki [a more potent and intoxicating variety of nearly pure alcohol] isn't..."

These views are of course doctrinally incompatible with Islam and known to every muslim even with a limited level of literacy than those interviewed.

- 26 Statement by Charles Correa, Ibid., p. 13.
- 27 The papers presented at these conferences are published under the general editorship of S.A.Ashraf. The first book to come out is an introduction to the series and is authored jointly by S. Hussein and S. Ashraf, titled, Crisis in Muslim Education. The second one by Al Attas (editor), is called, Aims and Objectives of Islamic Education.

Both books are published by (London: Hodder and Stoughton & King Abdulaziz University, Jeddah, 1979).

See also, The Times Educational Supplement, 1.4.1977, 'Muslim education', p. 9., and Kingdom of Saudi Arabia, Ministry of Higher Education, Umm al-Qura University, World Centre for Islamic Education, Recommendations of the Four World Conferences on Islamic Education, (Makkah: World Centre for Islamic Education, 1403/1983).

Another critical comment on the conference can be found in: W. Montgomery Watt, 'The Contemporary Political Relevance of the Religion of Islam', Scottish Journal of Religious Studies, vol. 1, no. 2, (p. 94)

- 28 H. H. Bilgrami and S. A. Ashraf, The Concept of an Islamic University (Cambridge: Hodder and Stoughton, 1985)
- 29 Ziauddin Sardar, 'What Makes a University 'Islamic'?', in Inquiry, 3, No. 4

(April 1986) 39-44, (pp. 40-41). Mr Sardar comments further on the Bilgrami and Ashraf Monograph and makes a number of pertinent critical comments.

30 Ibid., p. 43.

31 International Islamic University, Handbook 1984/85. In addition to the handbook the following paper may be referred to for further theoretical information as regards the principles of such an institution:

Dr. Ariffin Suhaimi, 'The Role of International Islamic University in the Development of Islamic Education System (The Philosophical Basis)'. An unpublished paper presented at the 'International Conference on Islam and Technology' held at Kuala Lumpur organised by Universiti Teknologi Malaysia, on the occasion of its tenth anniversary in 1982.

32 Ziauddin Sardar, 'What Makes a University Islamic', Inquiry, 3, no. 4 (April 1986), 39-44 (p. 44).

33 Ibid., p. 44

34 Ibid., p. 44

35 Isma'ail Raji al Faruqi, Islamisation of Knowledge: General Principles and Work Plan, (Washington: International Institute of Islamic Thought, 1982) p. 6

36 Ibid., p. 14

37 Ibid., p. 38

38 The address of the Institute is given as P.O. Box 17323, Washington D.C. 20041. It has produced a number of books and lately stated to publish jointly with The Association of Muslim Social Scientists a twice yearly journal called "The American Journal of Islamic Social Sciences". An article by Dr. Abu Suleyman, the Director General of the Institute, has recently been published in the said journal and gives a general outline of the thinking behind the Institute. See: Abdul Hamid Abu Sulayman, 'Islamisation of Knowledge with Special Reference to Political Science', in Sulayman S. Nyang (ed.), Islamic Social Sciences, Vol. 2 No. 2 (Dec. 1985) 263-289.

CHAPTER TWO:

ARCHITECTURAL EDUCATION - ITS DEVELOPMENT OVER THE AGES AND PRESENT STATE IN THE SECOND HALF OF TWENTIETH CENTURY: A CRITICAL REVIEW.

...Before we embark on such an enterprise [serious inquiry into educational theory that need some analytical, and often non-architectural, bases on which to establish a critical understanding] it must be recognized that there is more to buildings and design than mere bricks-and-mortar. For instance, the social, economic and cultural conditions of their existence is as important as the type of material, construction methods or styles that the architects employ. One hopes that gone are the days when architects could not only claim the right to change people's lives, but when the latter failed to respond to their designs and plans architects could have the arrogance to say "well, if they do not understand our architecture, we must educate them".

Secondly, it may seem obvious that architectural education is not simply concerned with teaching design skills and know-how, but also with ideas, knowledge, ideology and vocabulary of architectural practice. ...For it must be recognized that the hands that draw and the eyes that see do so on the basis, or under the dominant presence of those ideas, knowledge, etc. which are inaccurately, but conveniently, called theory.

Necdet Teymur, "Architectural Education in a divided world"[1]

In contrast to the engineering disciplines or those of pure sciences, the disciplines of environmental design were not considered to be value free and as such better not to be segregated from socio-cultural and moral issues that a society was concerned with. At the present stage of universal interest in the quality of the environment, engineering disciplines are also being associated with certain values beyond their technical content.

The Individual and general traits that a particular society

exhibits in its daily life will therefore directly relate to the concerns of environmental design, either by being in harmony with it and suitably reflecting those traits, or by being in discord with it generating patterns of conflict. For this reason any evaluation of the relevance or otherwise of attempts at shaping the environment must be measured against society's inner as well as higher dynamics. The current confusion and controversy raging in the Western world as regards the validity or failure of ideas that shaped the Modern Movement is one living example of the sentiments expressed above. The controversy does not limit itself to actual products of the environmental designers be they individual buildings or pieces of urban renewal but engulfs within its tribulations the educational system that produces the shapers of the environment too.

It therefore becomes necessary in any discussion on architectural education to study the evolution of the Discipline of Architecture as an educational process and be critically aware of its strengths as well as failings that can be discerned along the line so as to develop a sounder model for the present.

i- THE DISCIPLINE IN THE MEDIEVAL PERIOD

The point of departure in the training of the "Architect" as the progenitor of the shapers of built environment arises at the end of European middle ages, a period looked down upon by Renaissance theoreticians when compared with their own. With the enthusiasm that the Europeans dropped the curtain on the Gothic Era, ushering in their "Renaissance," they also eclipsed the "Craftsman

Architect" of those "bad old days" with their own "Gentleman Architect". This eclipse also marks the point of the parting of the ways between European shapers of the environment and those in the East who shared till then similar institutional structures in the training and practice of those involved with the building activity. Guilds of different crafts in addition to direct links, or even integrated associations with religious institutions of the period were some aspects of this practice. Either as Asnaf (Craft) Guilds or as Futuwwat (Chivalry orders for the youth) or Ahiyyun (Brotherhoods), they had the structure of a sūfi (akin to a mystical) order. The novice entered into the order as an initiate and gave himself up to the 'masters' to be trained in his profession at a very young age. The training itself encompassed the technical knowledge of the art or the craft as well as the social ethics of the discipline. All this was activated within the prescriptive bounds and direction of Islam's own particular world view. The master, or the Sheikh at the top was the supreme master/guide not only of the techniques of the craft but also the spiritual well being of his adherents. Despite its eclipse in the West, this kind of training methodology persisted for some time longer in the Muslim world.^[2]

The Renaissance, in rejecting one of the most original and comprehensive systems of designing such as "Gothic" flowered into, was also rejecting an experiment that strived to justify the physical form of its environment with the tenets of its faith.^[3] However deflected this faith may have become from the original (which Islam also maintains to be its own tradition), its influence on the building activity at this time cannot be denied.

Lesnikowsky gives a fascinating account of the role and training of the medieval architect. According to him many were from influential and wealthy families. It was in the spirit of Medieval tradition for the children to continue in the same family profession through successive generations without a break. It of course also provided a stable growth and order to the professions including architecture.

The title of "master" that they were given is another indication of the position they held in the social structure. This title was first used in the middle of the twelfth century and later got adopted by the universities to denote a professional rank. Its origin in the profession rather than in academia has significance in identifying a practical emphasis in the medieval mind. According to Lesnikowsky, the 'practising master' was valued more than the 'theorizing master.'^[4] The method of learning the art of architecture was of course specially professional it being implemented through an apprenticeship system. Formal education was also obtained by the same method. The training usually took around eight years, being completed by the time one reached twenty. A further period of three years was then spent to gain more proficiency in various skills by extensive travelling. By doing so the future architect gained first hand experience of numerous examples of the built environment.

The courses studied during the apprenticeship included in addition to the art of construction, the art of geometry and the laws of architectural composition. In remarkable contrast to the architects of later epochs, medieval architects did not have

their education compartmentalized into specialized independent fields. They were taught in broad and general terms. As observed by Steven Hurtt in a recent article on design studio discussion, students were put in a learn-by-doing situation:

...The initial demands on his (student's) intellectual performance were low, but he was surrounded by peers and mentors operating at a higher level. Thus he learned by watching, listening, participating and had clear role models whom he watched do what he wanted to learn to do. The master didn't have to teach him "trivia," or teach it redundantly. He did not feel the burden of a need for either novelty or originality or personal style. His performance criteria were clear: do as well as the master, the way the master did it—with a comparable result.

Because his subject matter, architecture, was not divided up into theoretical distinctions of how (craft), why (science) or what (social propriety), he learnt all three integrally. Because history, sociology, anthropology, and even engineering had not yet been split from theory and practice, these too were integral to architecture.[5]

By the time they reached the age of twenty-three these medieval students of architecture became confident and felt qualified enough to take up commissions on their own. In looking through studies of the period one can not escape to discern in the make up of these medieval architects a humbler consideration of their worth as well as a more committed conviction of the purpose in their vocations. They had an enviable position in the society well compensated for their services and held in great esteem both by the civic as well as ecclesiastic authorities.

ii- THE DISCIPLINE DURING AND AFTER THE RENAISSANCE PERIOD

The "craftsman" nature of the architect of the medieval period was then transformed into a "gentleman" in the hands of Renaissance theoreticians. The picture of the "gentleman architect" is

fashioned around the figure of Leon Batista Alberti whose own self-imposed duty was to help conceive a new form for a new rational Italian style that would glorify their own achievements and at the same time symbolize aspirations of the age. In order to achieve this aim Alberti wrote his famous treatise on art and architecture, presenting a set of rules to govern architectural design, known as the 'Ten Books on Architecture'.^[6]

His writings in time would come to symbolize the L'Ecole des Beaux Arts philosophy, the source spring of Western culture...He can be considered as the father of the Renaissance architectural theory..In developing his theories as related to Church design, in contrast to medieval practice, he called for designing them as free standing monuments, without any buildings on the sides. Therefore, a plaza around or in front of the Church was all important and nothing appeared more suitable to this task than to transplant the old Roman "pagan" triumphal arch to structure such a facade... Thus Alberti was the first great theoretician who opted for intellectual staticism of form, which could be precisely defined by means of geometrical and mathematical certainties. He looked upon architecture as the science of ideal form, detached from life, from humans, and their complex functioning, and so imposed upon architecture the rational aspect that until today is the manifestation of universal humanism.

In addition to the changing ideas regarding the shape of a desirable environment a change took place from the apprentice system as practised in the Medieval period by which architects were trained, to a theoretically structured one in specially conceived

academic institutions during the Renaissance times. The mounting pressure to increase supply of architects due to an expansion in princely construction was straining the capacity of the apprentice system. Because of this short supply of designers, academies of art were developed during the Renaissance in order to train the required number of designers at a higher rate of production.

In France, Academie Royal d'Architecture was established in 1671, and with it the first school of architecture came into being and the first architectural professor appointed.^[7] It enjoyed great prestige and was the guardian of the French Classical tradition. Despite this structured change, the Academie studios looked as if they were an idealization of the master apprentice system that preceded it though in more gentlemanly surroundings... Of course the other system still continued in a parallel motion being relegated to a mere craft profession and without the public acclaim it used to command. In its realm was left the designing and construction of 'non-architectural' dwellings of ordinary folk.

Robin Middleton, in his introduction to a volume of essays on the Beaux Arts distinguishes the earlier phase of the academie from the later one. He considers that, "...In the 17th century, whatever the connotations the word 'academic' may now be, such establishments were hotbeds of intellectual ferment".^[8] He maintains the academie to be the focus of radical thought in which exposure of training architects to new ideas was freely made. Accordingly, adoption of new ideas, if found viable, into the evolving tradition, provided continuity and controlled innovation

in French architectural thought up to the end of 18th. century. This state of affairs would end when insistence on rational criteria would, according to him, 'degrade' architecture.

As one of the reasons for establishing the academies was to increase the supply of architects, they sought to introduce some form of stream-lining to education by centralizing those aspects of architecture that could be taught in lecture classes. The lecture syllabus of the Academy in 1770 covered material in: arithmetic; geometry; perspective; stereotomy; mechanics; architectural theory; gnomics; hydraulics; military architecture, and fortifications. Students were registered to ateliers of different academicians where they learnt design... Attendance, however, at lecture classes was noted to be low.^[9] Furthermore the humanist tradition of the Academie and school attached to it made it unsuitable for the teaching of those who were more inclined towards a purely technical role. Through these academies it had become possible, even desirable, that buildings could be designed without there being also a craftsman on the site. The architect's education became theoretical and antiquarian rather than practical, and what he gained in intellectualism he lost in alienation from the building process itself and from its roots in common society.

iii- THE DISCIPLINE DURING THE AGE OF INDUSTRIALIZATION

The industrial revolution ushered in a new period in which "engineering" became established as a discipline on its own. In this process a gradual schism took place between the architect of the

past and engineer of the present due in the main to the eclectic and dogmatic interest of architectural schools of the age in formal representations and appearances of objects. Gradually architects came to be regarded as only being concerned with artistic matters and left all technical and constructional problems to the engineer. One revolutionary consequence of this schism was that the French Academie of Architecture, like those of painting and sculpture was suppressed after the French Revolution in 1793. Instead The Ecole Polytechnique was founded in 1794 which was destined to institutionalize science and technology and also deal a blow to L'Ecole des Beaux-Arts by itself teaching architecture. In contrast to previous attitudes it set itself the function of combining theoretical and practical sciences, and as noted by Giedion, establishing in a way the long lost connection between science and life.^[10]

Similarly, Berlin also became a candidate as a centre for this type of education starting with the founding by David Gilly in 1793 of the celebrated Bauschule, known from 1799 onwards as the Bau-Akademie. The great neo-classicist architect Karl Friedrik Schinkel (1781-1841) was to teach at this academie. Bau-Akademie and later the polytechnic schools of Central Europe, focused all teaching of architecture on a core of subjects including design. The two and half year curriculum at the Bau-Akademie included: mathematics; architectural, mechanical, topographical, perspective and free hand drawing; the physics of construction; statics and mechanics; building construction; history of architecture; the requirements and design of both common and monumental buildings; city planning; machinery; and highway, harbour and river

works. Practical experience followed graduation.^[11] There was now a noticeable shift of emphasis as design also joined the core of subjects taught.

In the post-revolution period in France, L'Ecole des Beaux Arts was re-founded by Napoleon in 1806, in a way reviving an institution of the ancient regime. It kept to the previously established traditional path whereby the teaching of design was administered in separate ateliers under the supervision of a patron practitioner. As soon it developed in such a way that it lead to a constantly increasing isolation of the arts from conditions of ordinary life. This became very pronounced during the 'reign' of Antoine-Chrysostome Quatremere-de-Quincy, the secretary for perpetuity - in fact from 1816 to 1839 - of the school. In contrast N. Durand, appointed as professor of architecture at the newly created L'Ecole des Politechnique in 1798, played a different tune. His two volume work published in 1802, 'Precis et Lecons d'Architecture' became the most important rationalist theory of architecture. In this celebrated work Durand demanded that architects concern themselves exclusively with the function of building and nothing else! Durand was thus discarding for the first time the primacy of aesthetic criteria, maintaining that construction was the only important concept in architecture. However, the rationalist philosophy of such an educator resulted in the other extreme of reducing architecture to the problem of placing elements on the axes of grid lines. In that Durand is very specific: to learn to be an architect, he advised his pupils, one had first to learn to divide up a square into a regular grid...^[12]

In different degrees of emphasis the main source of nourishment for the newly emerging and expanding educational institutions for architecture in Western Europe and America thereafter came from the models of this tradition. The dominant model of course was the French Academie, and its sister, the Ecole des Beaux Arts. A later addition was their reactionary latter day brothers, the French Ecole Polytechnique and the German Bau-Academie... These seemingly opposed institutions have provided the conceptual models that have also formed the basis of educational institutions of Muslim lands in their recent attempts at westernizing their societies. Having been conceived and nurtured in the West, both systems contain a number of assumptions (and idiosyncrasies) inbuilt in their structure that are relevant to Western society but which are in contradiction, if not anathema, to the views current in the socio-cultural reality of Muslim communities. [13]

Ecole des Beaux Arts was of course the most prominent centre of the twentieth century architectural education. A prevalent legacy of this institution, as noted earlier, was the separation of the design activity from other theoretical courses. The Ecole provided the academic core of lectures and technical drawing classes, whilst the most glamorous part, the major teaching of design, was the responsibility of separate ateliers, autonomous units of instruction under its patron-practitioner academicians. This separation of design from other studies encouraged designers to be concerned with formal images. The independent artist-architect ego that resulted from this approach is still a prevalent attitude too entrenched in the western ethos to be erased.

The individualism referred to above has remained with the discipline despite the professed view of the opposite school, that of Bauhaus that eclipsed the Ecole in the last fifty years, without however banishing it to history. The Bauhaus movement no doubt is the most publicized educational experiment of the early 20th. century. It built itself on the Bau-academie tradition just after the First World War. Right from its inception it amalgamated the twin concerns of design and crafts/trades into one integrated course, treating architecture basically as an art of construction. It was a considered answer to the turmoil that entered into the field of environmental design as a consequence of Industrial Revolution and the ensuing economic, social, technical, political results that arose from it.

In the Bauhaus structure students had a six months introductory period in a Vorkurs followed by three years of parallel education under a master craftsman and a master artist where they were expected to learn the nature of materials and machine processes. In addition to the workshop experience during these three years the students were exposed to lectures on all branches of art (both ancient and modern) and science (including elementary biology and sociology). This was polished by two years training under a master, working in architecture and construction.^[14] Though it managed to bridge the division that came about between designer and craftsmen, developing a new rationalism in tune with the fast advancing technology, it would end up as being intensely materialistic and utilitarian in concern.

A- THE AMERICAN EXPERIENCE

The university-based architectural school is looked upon by Americans as an American invention and is just over a century old in historical terms. Although pedagogical methods employed in the training of architects have evolved principally from European models, the idea that such training should be located in a university, rather than within the profession or in specialized academies, has its origin in the New World. One of the earliest proponents of the idea is considered to be Thomas Jefferson.^[15] In building up its own particular tradition American schools first started on the Bau-Academie model, being predominantly technical in concern as typified by the example of M.I.T. in 1870s. At that period it had two courses in design but thirteen courses in construction!

The newly emerging confidence of the American State and its institutions started to generate pressures for expression of this confidence in the shape and appearance of buildings. Naturally enough the Old World would supply the only known examples with which to reflect these wishes. Existing institutions were not able to supply the number and expected quality of architects to deal with the demand. As a result of this new social pressure, American students started going to Europe to study, mainly to L'Ecole des Beaux-Arts in Paris, to familiarize themselves with European architectural history.

The complexion of courses at American universities changed when architect-academicians from L'Ecole des Beaux-Arts in Paris started to be imported to consolidate the classicist grip upon young

American schools. The instruction in these schools changed in the direction of more separate design courses.^[16] Lack of established patron practitioners in America, indoctrinated in the tradition of the Ecole, did not allow the independent system of ateliers to be instituted. These were replaced by its intramural version, that of the design studio. As a result schools started to educate large numbers of American Architects who assumed the task of the glorification of the American state with many constructions as classicist monuments and bureaucratic fortresses.

The gratitude of America to Europe is acknowledged by Professor Wm. A. Boring of Columbia University, in a speech he gave at the First International Congress on Architectural Education held in London, in 1924, as follows:

...If we [Americans] have achieved anything worthy of the name architecture, it is because of the inspiration received from England, France, Italy and other European Countries, enriched as they are with historic monuments, and the honourable traditions of our profession.[17]

The influence of Beaux Arts continued into the 1930s when the German influence of the Bauhaus was given the place of honour at the fashionable universities as a result of emigrating intellectuals from Nazi Germany.

The eclipse of the Beaux-Arts with the Bauhaus inspired the Modern Movement and the transformation of architectural education in America is one of the fastest changes that ever took place, in keeping with the accelerated change in all environmental fields encompassing the western world in the middle of the twentieth century. The major force behind this hurricane of a change was of

course Walter Gropius. Like a number of other celebrity immigrants from Germany he was received with public accolade and called upon to deliver the new oracle from the pulpit. A summary statement that he issued to press on one of his public engagements paraphrases the new ideology in very clear terms:

Today we are in a position to prove conclusively that the outward form of modern architecture and design are not the whim of a few architects or artists hungry for innovation, but the inevitable consequential product of the intellectual, social, and technical conditions of our age. The transformation from manual to machine production so preoccupied humanity for a century that instead of pressing forward to tackle the real problems of design, men were long content with borrowed styles and formalistic decorations. But now a new conception of building, based on realities, has developed and with it has come a new and changed perception of space. It has dawned that an architect cannot hope to realize his ideas unless he is able to influence the general production of his country, its trade and industry, in such a way that a new manner, a new school results, which succeeds in acquiring authoritative significance...

...Though some will continue to find sympathy and others antipathy for the movement we call 'the New Architecture,' no one can any longer ignore its intellectual basis - an essentially vital basis, whose scope so far transcends considerations - one might almost say 'details' - like fitness for purpose or functional truth. Its spiritual necessity, its power of persuasion can no longer be disputed, and the youth of today is inspired by it.[18]

Brave words in a brave new world...Gropius himself may not have appreciated how much he was part of the western ethos of design and that 'the New Architecture' would soon become another 'style', his office also being the source of some of the 'blasphemies'. Protagonists of this new architecture and the education that it gave form to would be spread all over the American continent after having been infused with the social and political reality of America's superior technology. Following in the footsteps of advancing hegemony of the colonial powers, the ranks of which is joined by America (though with a difference), the new

'architecture' will become synonymous with the image conscious corporate conglomerates. In this endeavor it will become slowly estranged from the socio-cultural base of the people and generate again a schism between the form and the user, reaching the point of 'crisis' within the institutions of architectural education.

B- THE BRITISH EXPERIENCE

It is interesting to note here that Robert Maxwell, attests in one of his papers that the first professional university courses in Britain were imitated from the Beaux-Arts. Strangely enough, according to him, by way of the American imitation of the Beaux-Arts, rather than directly from France. [19]

Though Americans consider themselves as the initiators of university based education in architecture, Britain was not slow in establishing a link between universities and the discipline. A Chair of Architecture was first established at the University College, London in 1841, though architectural education entered fully into the folds of Universities in England only in the early years of the twentieth century. Up to the end of 1950s most of these schools were still functioning as Beaux-Arts subsidiaries containing within their structures similar idiosyncrasies to the Academy, having a professional basis that demanded a professional know-how from its adherents.

This was the original response of the Academy to the problem it faced due to the industrial revolution during the 19th. century and ensuing developments in all spheres of society whereby building types suddenly diversified and challenged the world of the

Academy that was defined from a different age. Not only the new types of building but also advances in building technology, new building materials and the implications of these to composition, form and design were part of the problem. The Academy dealt with this problem at the time by conventionalizing all the subjects taught in association with their design courses. The way they did this with subjects like structures or materials, was by examining currently designed buildings to see what needed to be taught. The different functions for which buildings were designed did not seem to receive much attention as the Academy, in keeping with the single track approach along which it was tenderly cared for since its birth, was only interested in keeping the buildings clearly identifiable as pieces of "architectural composition". The inevitable result of this attitude was the unfortunate dichotomy that was generated between the "subject teaching" on the one hand, and the "art of composition" on the other. It was this dichotomy that was shipped over from Beaux-Arts via United States into British Universities.

Robert Maxwell, speaking about his student days at the Liverpool School of architecture in 1948, states that he was expected to know something about the construction of domes in concrete. Domes, because they were considered traditionally the most important element in architectural composition, and concrete, because this was a modern material. He continues to state that two days before the examination he could specify the minutest details of steel and concrete requirement for a specific dome, whilst nothing would remain in his head two days after the examination. [20]

A transformation took place towards the end of the fifties, (RIBA

Conference of April 11-13, 1958), that involved changes in the architectural discipline aiming at replacing its professional basis with an academic one. In this transformation a novel conception of "necessary knowledge" would be adopted and the educational system restructured so that it could both impart that body of knowledge as well as advance it. This transformation coincided with the scientific revolution in architecture that was well underway, though outside the schools by the mid- 1950s. The British experience took an interesting turn in the 1960's with Bartlett School introducing some definite conceptual restructuring of its architectural curriculum under the leadership of Richard Llewelyn Davies who was made the head of the School in November 1960. Basically it involved a distinction being made between "knowledge" as contained in the technological subjects, and "design" which had no facts about it. [21]

"Subject teaching" would thus be made an authority and would enable programmes of architectural problems to be analysed and made rational. "Architectural design" would be re-interpreted as not being an art of composition, and be directed by the combination of constraints imposed by rationalized subjects and rationalized programmes. This was the basis of the transformation which came about in British schools of architecture in the early sixties. Interest in research developed in a variety of subjects related to building and planning. The result was the creation of a structure in which architecture found a place as an essential, if not THE ingredient, in the composition of the built environment, in a constellation of professional disciplines.

C- EXPERIENCE OF THE MUSLIM WORLD

The situation in the Muslim world can be extracted from the experience of one country the Ottoman State that not only led the Muslim Ummah for many centuries, but also maintained the interactive edge with the West throughout its life. It can also claim an un-interrupted continuity in its cultural as well as intellectual and political life since its establishment in thirteenth century up to the present, albeit within a different political structure. The Ottoman State is the last of the dynastic caliphates that also represents the last link in the development of the Muslim polity. Since the first quarter of twentieth century it has been replaced by the present republican Turkey as a very much diminished successor to its fortunes as well as misfortunes.

In the Ottoman State the agrarian basis of its economy persisted right to the end of its life and only after the establishment of the Turkish republic has anything approaching an industrial revolution appeared on its soil. Thus social changes resulting in urban upheavals as a result of industrialization that so markedly affected the western attempts at developing a theoretical basis to its ideals and concerns in the shaping of the built environment, arrived in Turkey only in the second quarter of the century. The same was true of Egypt. The craftsman-architect of medieval Europe had his counterpart remain in charge of the building effort in Muslim lands till the middle of the 19th. century. In their own quasi-religious ways professional guilds used to provide the core of craftsmen that helped realize the traditional built environment. Their dissolution in 1840 accelerated the decline of the traditional processes as well as professional

capabilities. The direction of the building effort would gradually be taken over by the emerging gentleman-architects similar to those in the West. Interestingly enough the Turkish Muslim population lost interest and withdrew from the design discipline in its new structure, their place being taken by the Christian minority communities of the state. Thus hardly any Turk would be found as architects towards the end of the 19th. century in the Ottoman State.

In proportion to the State's loss of confidence in the viability of its own system, and under the pressure of un-ending socio-economic upheavals, a series of palliative reforms were introduced by the ruling House into the Ottoman society towards the end of Eighteenth Century. The Imperial Edict of Gülhane of 1839 was official promulgation of this fact. With it began the era of Tanzimat (Reorganization), a period in which western oriented elite of the society embarked on a far-reaching programme of trying to graft European institutions as models upon the Ottoman society. The organized education of architects was already taken up a little earlier with a Royal Approval being given in 1833 AD by Sultan Mahmud II for the establishment of a separate section for the training of architects from amongst the students of Hendese-i Humayun (The Imperial Engineering School). Engineering education itself was taken care of much earlier as part of the military reforms. This first venture was based on the proposal of a certain Hoca Seyid Abdulhalim Efendi, the head of the Public Buildings Directorate who carefully defined in his proposal his understanding of the profession as well. According to him the science of architecture is based upon the following five prin-

ciples. "1. Ability to draw and make pictures; 2. Mathematical sciences; 3. Science of Geometry; 4. Surveying and mensuration; 5. Knowledge of size, properties and cost of materials." [22]

It is clear from these five principles that by now emphasis in the mind of an "official architect" is purely and exclusively concentrated upon the technical nature of the discipline. There is no concern with the ideological/philosophical nature and aesthetics of the activity nor its relevance to the social structure of the society beyond the technical nature of things. Clearly a break has occurred in the conceptual understanding of the building effort as practised during the earlier periods and a new understanding arrived at as to what constitutes the basis of the discipline, (or rather the skills and knowledge deemed to be sufficient for its application). It also signifies that the elite of the professional guilds, Hassa Mimarları Ocağı (the Royal Guild of Architects) based in the Palace School of Enderun in the Sublime Porte has already lost its authority over the building activity of the State.

Historical records predate the establishment of this guild as far back as 1453 to the same year of the conquest of Istanbul. It used to train the core of the architectural and engineering cadres of the State before. Koca Sinan, the most internationally known Ottoman author of the Selimiye and Süleymaniye Mosques was a product of this school. However we notice that in the second half of the twentieth century major public buildings were commissioned to European architects or members of the minority communities of the State who had their education in Europe. For their

effort they were showered with praises and high honour and thus consciously or otherwise a moral pressure was generated in favour of their works. The change can be illustrated with the example of the design of the Palace of Dolmabahçe in 1853 by Garabet and Nikogos Balyan, members of the influential Armenian family of architects that were favoured by the Royal House. With it, the typical western princely palace form containing long rectangular halls, ornate facades, ornamental window and door articulations using Renaissance vocabulary of Greek and Roman environments, and including significantly a ballroom, was introduced into the building programmes for the first time. The contrast that this palace makes, facing the Bosphorus, when compared with the forms of the now abandoned Topkapi palace in its organically assembled and "humble" kiosks and ceremonial halls, retaining a sympathy with the human being and the social structure is very instructive of the changed order.

The formal statement in educational terms of this change was embodied in the decision to establish, as separate from the engineering education, the Sanayi-i Nefise Mektebi Alisi, (The School of Fine Arts) in 1883. With it the Ecole des Beaux Arts mentality became enthroned in the Ottoman domains. Of its first seven academics four were foreigners the most prominent being the head of the architecture section, Professor Alexandre Vallaury of France. A parallel effort was initiated some time later by another European, professor Jachmund of Germany, who started to teach architecture in the Hendese-i Mülkiye, (Civic Engineering School) in the year 1890. This school, re-constituted as such in 1884 considered architectural education as an engineering discip-

line. It later came to represent the German stream by Jachmund's association with the Charlottenburg Technische Hochschule in Berlin. Both gentleman also became authors of many public buildings in the Capital thus giving physical support to what they taught in their ateliers. They, and their students who were sent to Europe for further study set about to identify an eclectic Neo-ottoman architectural style which germinated the so called First Turkish National Architecture Movement. It continued to be fashionable up to the first years of the new Turkish republic.

An insight into the nature of teaching at The School of Fine Arts and the composition of the student body that reflected the background of those involved with building activity in the State can be obtained from the comments of one of its graduates, architect Hikmet Koyuncuoğlu. The leading personality at the school at this time was the Italian architect Giulio Mongeri.

I entered the School of Fine Arts in 1908...I took my stand, a large cardboard and also bought two pieces of package paper from the grocer, and came to the school. They had columns placed in the atelier: Ionic, Corinthian, Composite, Doric. They said, "Draw whichever one you like by looking at it." I started to draw the Composite, put the shades and shadows, finished the work and sat waiting. Drawing Master, seeing me sitting doing nothing asked. "My son why are you not working?" I answered that I already finished. He came and looked at my work. "I thank you, it really looks fine, but why did you not draw it on a canson paper or similar. We could have then exhibited it." I replied that I did not have the money. He became very sad. This was Painter [Salvator] Vallery [from Italy]...

[At the Academy] we were taught, Construction, Reinforced Concrete, History of Art, Stone and Timber Buildings...

In our class we were 40 persons: 38 Armenians, 1 Egyptian Arab, and myself.[23]

The final statement is a confirmation of a trend that was referred to earlier in connection with the decline of the Architec-

tural Guilds. In an article that he wrote, Architect Sedat Cetintas gave some statistics related to the graduates, extracted by him in 1921 from the records of the School. It is given here as it clearly records the trend:

Since its inception up to present, the Architecture section of the School graduated a total of 220 diplomates of Architecture that are distributed amongst different nationalities of the State as follows: 10 Jews, 30 Greeks, 60 Turks, and 120 Armenians... Investigating further as to the fate of these 220 diplomates it was ascertained that the majority being Christian left to other countries after obtaining their diplomas. Of the remainder, excluding those that died naturally or...in the First World War, only 32 diplomated architects are traced still active in the country.[24]

The state of "Architecture" during the eighteenth and nineteenth centuries in the last Caliphate of Islam can be fathomed from these extracts.

The new Republican elite that came to power after 1923 had a distinct abhorrence to anything that smacked of old and Islamic and as such could not come to terms with the eclectic Ottoman forms current in the prevailing National style. They had a dogged belief in total westernization and required that these be reflected in the shapes of the built environment. It was through their direction that the curriculum of The School of Fine Arts in Istanbul was reorganized in 1927 and staffed by the representatives of the German modernists of the day. Its name was also changed into The Academy of Fine Arts, Ernst Egli becoming the head of the Architecture Department in 1930. He was also appointed as consultant to the Ministry of Education to advise on the development of architectural curricula. At the same time a number of European architects and planners were recruited to design the new public buildings of the New State in the new capital Ankara.

Ernst Egli, H. Poelzig, Bruno Taut, A. Vorhoelzer, H. Schutte, Hermann Jansen are some of the German and Swiss architects and professors that took part in this effort.

Clemens Holzmeister, Paul Bonatz, Gustav Oelsner all contributed their portion of regionalist, nostalgic, populist or chauvinist variations to the theme of Viennese Cubism. No wonder that an identifiable approach that could be considered as typically representative of the country cannot be deciphered in these works. One may of course maintain that it represents truthfully the lack of direction or the amount of confusion in the society as to the role, meaning and purpose of "Architecture".

After 1940 this style was replaced by the Second Turkish National Architecture Movement led by upcoming Turkish cadres of the discipline and aiming at the replacement of the foreign element. In contrast to the first movement, this last one took as its starting point the civic and vernacular buildings in contrast to the preference of the first for the vocabulary of Ottoman religious buildings. The leader of this movement, Architect Sedat Hakki Eldem, who was the organizer of a series of National Architecture Seminars at the Fine Arts Academy that were conceived long ago by Mongeri, maintains that it should not be considered as a "reaction" but as the result of the studies of these seminars. His assertion is interesting though questionable.

Up to then an unknown nature of the Turkish House and its very close affinity with the Modern Movement was discovered. It surfaced that the characteristics of the Turkish house was present in the understanding and architectural principles [implemented in] old Chinese dwellings as well as in the dwelling designs of the most modern masters (F.L.Wright and Le Corbusier).[25]

This observation contrasts with the following of Renata Holod and Ahmed Evin. In describing how the Modern Movement gradually penetrated into the domain of lower strata housing they comment:

The divan (sedir, kerevet) and the tray table (tabla, sini) within residences gave way to Western style furniture. This was a far more radical change than simply replacing one type of furniture with another. It demanded a simultaneous transition from the Ottoman house containing un-specialized spaces to a house consisting of different, specialized rooms. Western furniture brought with it the notion of specialized space in house design. Functionalist architecture provided the means for this change in the house form.
[26]

Paul Bonatz, who started teaching in Turkey at the time apparently had a hand in popularizing stone load-bearing construction during this period, which became another feature of the Movement. His appointment was made in 1946, the same year when the Istanbul Engineering School was upgraded in status as The Istanbul Technical University, its department of Architecture becoming an independent faculty within it. Scientific studies and new subjects not taught before were introduced into the curriculum, mostly under the influence of German teachers.

After 1950 a new phase opens in the Turkish built environment which can be dubbed as American Internationalist Modernism. Two particular elements are considered as the catalysts of this phase. The first one is the Istanbul Hilton Hotel, designed by Skidmore Owings Merrill in 1952, and the second is the establishment in 1956 of the Middle East Technical University in Ankara as a regional university to serve the entire Middle East. English was made the medium of instruction and one of its major units, the Faculty of Architecture, was modelled on American equivalents.^[27] Turkey now became very committed follower of any and

every innovation of the International style shaping the built environment with minimal distinctive contribution of its own to the "architectural" discipline.^[28]

Without going into details Egypt and Iran can also serve as examples replicating similar experiences. Iran represents the Persian speaking world of Islam and the Shia school of thought. Egypt on the other hand is looked upon as providing the intellectual and cultural leadership to the Arabic speaking part of the Muslim world. In a recent seminar Professor Diba of Iran observed that "when the first school of architecture was established in Iran fifty-years ago the dean was French. The design and study of traditional architecture were strongly discouraged, if not totally banned."^[29] In the case of Egypt, Suha Ozkan's comments confirms the repetition of the Ottoman experience there as well. "Architectural education in Egypt evolved from the Germanic Technische Hochschule model, with a strong Swiss influence in Cairo University, where the training of architects began as early as 1880."^[30]

v.- CRISIS IN ARCHITECTURAL EDUCATION

Both in the United States and in Britain the official national institutions of the architectural profession have always concerned themselves with the state of education of the discipline. Many a conference, seminar, study attest to this fact. Institutions are encouraged and at times forced to take a critical look at the state of education.^[31] In the middle of the present decade deficiencies in the education of architects were again

being discussed as a very topical item in western educational circles and are considered at present as having the dimensions of a crisis. Although signs of critical observation have always been a boost to further improvement and ever present in all healthy societies, such critical enquiries have now reached proportions of a chorus. Statements appear at an increasing tempo in western publications, all stressing the failure of the modern movement to provide a suitable humane environment and identifying architects involved as: "partners of a corrupt oligarchy which has managed to foist an unsatisfactory environment on society."^[32]

If the dissatisfaction has reached such levels in the West can one not make an intelligent guess as to the state of architectural education in other so called "developing countries" that implement similar systems despite not sharing, neither subscribing to the social, historical, cultural, political or ideological development of the West?

Architectural education has been considered as consisting of two major components: the design process referred to as the "studio" on one hand; and the "theory" subjects on the other that may exhibit a varying composition as regards their technological, philosophical or humanity based course contents. Both are areas of discussion and complaint. A review of critical comments found in recent studies made by western institutions themselves as regards the weaknesses of their own education will throw some pertinent light on the topic.

A- DESIGN STUDIO COURSES

No doubt the central concern in architectural education is the design work itself.^[33] It deals with the analysis of complicated programmatic and environmental information leading to a creative synthesis in suggesting a built form that will satisfy both practical and aesthetic needs. This particular activity takes place in the Design Studio. Therefore the studios become the workshops of architectural education and the central focus of all student activities. They consume and dominate the major portion of a student's time and concern, requiring a very heightened degree of intensive involvement with the design problem in the studio.

A noted writer on architectural education, P. Stringer, commenting on this very topic, criticizes the termination of studio projects at the synthesis stage and argues for the devising of design problems in the studio in terms that will make verifiable solutions possible. Referring to the crippling aspect of the design studio whereby the student never produces buildings (which can be tested), Stringer speaks of the student being stopped short,

"at half-way house of creative activity... It is as if we were to imagine a young artist spending his time at school making cartoons for paintings or maquettes for sculpture, or a young scientist formulating theories without deriving hypothesis from them, or designing experiments without ever carrying them out." [34]

Stringer is not the only person who questions the shortcomings of the studio courses. Most recently Amos Rapoport also entered into the arena, concluding in an article that studio teaching is

without a theory and knowledge base and therefore must be "personal, subjective, illogical and not cumulative." In Rapoport's view there is hardly any evidence to show that students carry information from related specialization fields to the studio and using that knowledge for the why, what and even how decisions he is forced to make. He questions the use of the studio arguing that:

...It...can no longer be assumed that the goal of architectural education is a Renaissance man - a single designer/architect. We need a whole range of people with different skills - hyphenated architects, as it were: architect-programmers, architect - evaluators, architect - researchers, architect-theoreticians...[35]

Such concerns are not just voiced in periodical articles only. The institutions themselves are also involved and initiate studies into the state of affairs in their own houses. One such document is a position paper put forward by the Deans of the 'Consortium of the East Coast Schools of Architecture,' of the United States of America stressing the need to reform architecture education. In the section dealing with the state of architecture education they make a summary of the weaknesses inherent in the studio/workshop as practised in the States. Some of these are extracted as separate points below.

- i) Failure to find practical ways to integrate non-studio course material into the studio exercises.
- ii) Failure to organize general or partial schemes of design related information for students to draw upon systematically for use in the design process.
- iii) Lack of sufficient methodological description of the iterative nature of designing to allow students to guide themselves and judge their progress at arriving at solutions.
- iv) Not enough attention given to develop integrated and progressive series of studio problems calculated to produce a Total learning effect. [36]

Of course there are others who, though agreeing that there are grounds for further improvements, maintain that studio courses as they exist are a fine means of conveying to students the necessary skills that they need in later professional life. However in all these discussions there is no question raised as to the structure of the studio itself and whether there is some fault in its constitution that may lead to the criticisms articulated in different ways. Alan Levy does so in an article referring to a particular composition as the "Total Studio". (Mark the similarity of terms used as underlined in the previous quotation from the Architecture Education Study"). Levy distinguishes it from two other models, "The Traditional Approach", and one he calls "Independent Lab/ Studio". The Total Studio, according to him is:

"...an ideal pedagogical construct, representing the holistic approach to architectural education to which a great proportion of architectural educators and programs aspire, but which few have even partially achieved."[37]

He cites his own experience at the University of Pennsylvania where the idea is implemented somewhat with compromises. Finally he concludes as follows:

"...Through all of this the Total Studio remains a model, a set of objectives, representing the recognition that architecture is technique and function and form. Although difficult to achieve, it remains the ideal against which programs in architectural education are measured."[38]

The interesting thing is that whatever may be the structure, the methodology, or the pedagogical approach applied to a studio, the western society has rationalized the roles it expects its architects to play. Elliot Littman and James Mayo defines three role models for North American students as potentially addressed in Architectural Studios. They further interpret these roles in two

ideological modes known to them, those of capitalism and socialism as shown below:

ROLE MODEL	CAPITALISM	SOCIALISM
Egoist.....(Give-'em-what-I-want)	Architect as Star Designer	Designer as Movement Leader
Pragmatist.(Give-'em-what-they-want)	Architect as Entrepreneur	Architect as Public Servant
Facilator..(Give-'em-what-we-want)	Designer as Social and economic programmer	Designer as the Community Advocate [39]

If this was the case than there would not be any reason or cause for further confusion. One can choose the role model and either of the two ideologies as the order to construct the appropriate system!

B- THEORETICAL COURSES

Having identified the major areas of criticism in the studio/workshop teaching as observed by the West at their own institutions it will help to complete the picture if the other component, the theory subjects, is also looked into briefly.

One area is the history/theory part of the lecture courses. There are clear statements tracing and differentiating the rise of 'Architectural History' as a new discipline in contrast to 'History of Architecture' that is being taught at most schools. As 'History of Architecture' what seems to have been stressed out of proportion has been the two components identified by David Watkins in the preface of his scholarly work as, the "practical" which establishes what was built, when it was built, and who were

instrumental in its building, and the "aesthetic" which attempts to account for the visual or stylistic differences. Re-phrasing the course as 'Architectural History' Watkin adds a third component which he titles as the "historical" and identifies it as the attempt to discover why the building was built, in the way that it was built.^[40] He goes on to warn that this particular attempt may demand considerable religious, cultural, sociological knowledge, for the precise function of a building may not be obvious. To heed this warning, present "History" courses will require to be completely revised and replaced in many a curriculum...

Another area is the transformation that has come about in the craft/trades connection with the shaping of the environment that are (or were!) so intricately woven into the building process. Theo Crosby writing in Architects Journal comments as follows:

"...When the great task of post war reconstruction began, however, the architects, embroiled in battles with planners and engineers, immersed in the problems of mass production and high technology, were happy to see the artists and poets tidied away to teach in the new and expanded universities. Making art in architecture requires time and effort, and there was less of both to spare.

The architectural profession has now divided. Innumerable practitioners face an ever-increasing involvement with technology and a building industry which has few opportunities for craftsman, so they are trapped in a system with a diminishing capacity for expression. Materials get blander, producers and contractors bigger, regulations tighter, and the opportunities for invention fade. There is also a separate profession of academics whose understanding of the practical world is minimal.

...in the past forty years architects have been party to a deliberate deskilling of a great industry. Although new skills have been created in a few technologies, there has been a consistent pressure for the industrialization and consequent automation of production. That production depends upon quantity. Quality might be achieved, but variety, individuality and invention will not, and those are the qualities that we desperately need...[41]

This particular area which also deals with the aesthetic as well as the technique of actual detailing and assembling of the final entity, has brought havoc to many a local craft/trade sector of the developing countries too. Its significance in social and economic terms is immense. Not only the aspect of destroying a locally viable craft technique, but the inability to acquire an efficient and skilled application of a new craft technique must be born in mind. The building of Le Corbusier's Chandigarh with pictures of labourers carrying the concrete mix in baskets from hand to hand or the cutting and filling of enormous ravines in Islamabad to achieve the roller skating grid iron road system of Doxiades, using hand labour and animal transport, are vivid aspects of the forced transformation.

The need to have an organic relationship between the local craft/trade skills, and the technology/design skills advocated in schools of architecture in developing countries, is an area fraught with thorny problems. A serious attempt to meet this need not only in relation to tertiary education, but also as regards the vocational training and craft education of these countries must be made if a viable industry and resultant acceptable "architecture" are desired.

The question of the significance of the the "Building Science" related courses need also to be considered. The term itself is rather blurred in what it includes and what it leaves out. Robert Maxwell once referred to this area as the "infra-red end" of the spectrum of criticism that students are successfully provided with "which has a sound empirical basis".^[42] "The ultra-violet"

end was that part "where we are concerned with form and style". According to him the particular problem that exists was how the two ends of the spectrum interacted in the middle part. Maxwell defines this part to be "known well enough to practice, but not well enough to teach as a University discipline". Having gone through an intense period of faculty discussion and reappraisal at his university the conclusion reached is reported by him to have been:

...the introduction of a new sort of intermediary teaching between the separate subject teaching, and the design work. This teaching aims to establish and identify the sources of authority lying within the different subject areas, but also something of their relationship and value in the business of design. We call this teaching "Core Teaching", and so the design activity core is now flanked by a core of technological and another of contextual knowledge. ...I think we have acted correctly in this to recognize both the authority of subject teaching and the centrality of design as the locus of application of subject knowledge. Perhaps from the Beaux-Arts principle of "action before knowledge" we have proceeded through "knowledge before action" to a position of "knowledge with action".[43]

In concluding this review of the thinking in the Western World as regards "architectural education" another important point has to be recorded. Though there is much research and study on various components of architectural education, those that deal with the totality, addressing themselves to structuring a complete model are not very many. [44] Things are left to improve through organic growth rather than dynamic upheavals.

vi- SITUATION IN THE MUSLIM WORLD

The defects in architectural education that have been clearly identified by western scholars are present in the schools of the

Muslim world with added emphasis. It could not be otherwise since they all have the same progenitors.^[45] There are, for example Academies of Fine Arts, based on the Beaux-Arts model, and Technical universities based on the Bau Academie model. Some have been constituted with French influence, other have been modelled on German or American universities. Without identifying by name, one can say with the assurance of self experience that there are schools in illustrious capitals of the Muslim world full of 'ancient Muslim monuments' where students at this moment spend precious hours trying to draw Ionic capitals, Corinthian fluted columns, and Doric entablatures. All these are done as part of the students initiation into the mysterious discipline of architecture year in year out for the last half a century without a break, exactly as Hikmet Koyuncuoğlu did in Istanbul of 1908. (See previous note 23).

It will not be an exaggeration to state that in most Muslim schools of architecture, the treatment of history subjects are lagging behind in quality of content and relevance of context from those that are taught in western universities, retaining a very descriptive nature, and spending unnecessary time in dealing with details of styles and periods with no relevance to the present state of arts or cultural significance in Muslim countries. To be specific, how much better an architect, say an Egyptian student will be by being taught as he now is, a comparative analysis of Gothic Architecture in Europe by looking at : "English Medieval Architecture, French Gothic, German Gothic, and Italian Gothic"?..^[46]

Given this situation it is not surprising that Hasan Fathy, the renowned Egyptian architect who became the champion of using local materials and technology in order to decrease the enormous housing deficit existing in Egypt is so much under valued and neglected in his own country. His candid statement during a private meeting with the author that it took him ten years to realize the worthlessness of his five year long architectural education and cleanse himself of what he was taught, is in itself a serious and telling verdict of one authority who has been through it himself.^[47] It would not need much evidence to suggest that a major area of weakness or defect in architectural schools of the Muslim world is the structure and content of the sociology/history based curriculum.

The second major defect area that can be identified in the Muslim world is the general lack of interest in developing appropriate (or intermediate!) technologies suitable to local situations. In this regard it can be clearly shown that there is no direct interest amongst the designers in the development of local arts/crafts/ trades, although such skills are badly needed in the general national effort. Most of the attention is accorded to highly developed imported techniques and technologies. Thus the state-of-the-art is perpetuated as a western monopoly through usage of western sources as expertise, reference books, or text books... Saudi Arabia is one magnified sample of this fact. The third major defect relates to the professional skills of the environmental designers. No reasonable and befitting organization has evolved in our schools whereby the practical nature of the discipline is taught to the students during their training.

Neither do the ethics of the profession at large and those defined in theory are resolved to guide the future professional. In the case of King Abdulaziz University - Jeddah, in line with College of Engineering requirements, students of architecture are obliged to spend two summer training sessions of eight week duration each in industry during their six years of study. On graduation they would immediately be given the right to practice without any test on their comprehension of the professional world. The professional or academic value of this mini-professional training is questionable in both content as well as format.

One final aspect of serious importance in connection with deficiencies of architectural education is the absence of any recognition of the prescriptive role that the system of belief of the local population plays in the shaping of the environment!.. Even on those rare occasions when in one Muslim country some recognition of the value of the indigenous belief system is forthcoming, it is made along the norms and criteria developed by western scholarship, naturally tinted with their own ethos.^[48] It does not matter whether the scholarship is specifically directed towards the East under its now bankrupt name of "orientalism". The methods used are still foreign to the non-physical component of the concern area, namely the spiritual, social, and psychological dimensions.

NOTES ON CHAPTER TWO

- 1 Dr. Teymur has perceptive comments on what is the 'Third world', 'Architecture' and 'Architectural education. In his article he tries to put together a theory of architectural education by identifying a number of elements in its "social, institutional and conceptual contexts". However the gist of what he says is summed up in the following sentence. Having identified a number of complexities he says:

"...Following a recognition of such complexity, and when our metaphorical meshes are overlapped in our imagination, we should no longer be able to rely on comfortable generalizations such as 'third world countries'", 'architectural education' or, especially, 'Architecture'..."

Necdet Teymur, 'Architectural education in a divided world' in Stephen Trombley (ed.), Architectural Education 2, (London: RIBA Magazines, 1983), 84-93, (pp. 85,86).

- 2 There are not very many treatises available on the matter of training in the field of "architecture" in the Muslim world. However the following may provide some general information for a wider perspective of the topic.

Ronald Lewcock, 'Architects, Craftsmen and Builders: Materials and Techniques' in George Mitchell (Ed.) Architecture of the Islamic World, (New York: William Morrow and Co., 1978) 112-143, pp. 129-133.

Haluk Pamir, 'Architectural Education in Turkey in its Social Context: Underlying concepts and Changes', Ahmed Evin (Ed.) Architecture Education in the Islamic World, Proceedings of Seminar Ten, Held in Granada, Spain, April 21-25 1986, The Aga Khan Award for Architecture. pp. 132-133.

- 3 In the third chapter of his book, titled 'The Metaphysics of Light', P. Nuttgens deals in general terms with the period and touches on the conditions of the architect in the prevailing environment. Patrick Nuttgens, The Landscape of Ideas, (London: Faber and Faber Ltd., 1972) p. 50.

Similarly two other important studies give extensive information on the interaction of the current philosophical, spiritual thoughts and the profession of architecture. These are:

Paul Frankl, Gothic Architecture - Pelican History of Art, (London: Penguin Books, 1962) pp. 266-8

Erwin Panofsky, Gothic Architecture and Scholasticism, (London: Thames and Hudson, 1957), p.20

- 4 Wojciech G, Lesnikowsky, Rationalism and Romanticism in Architecture, (New York: McGraw Hill, 1982), pp. 145-146. This book has been used in the main as the source of the comments on the Medieval period.

- 5 Steven Hurt, 'The Design Studio - Another Opinion in Defence of the

- Obvious and Not So Obvious' in Architectural Record, (January 1985), 49-55, (p. 50).
- 6 Alberti wrote his 'De Re Aedificatoria' around 1450. It was translated into English as the 'Ten Books on Architecture' by James Leoni in 1729. This was re-issued in London in 1955 with a foreword and notes by Joseph Rykwert. For an appreciation of this contribution see: Lesnikowsky, *Op. cit.*, pp.28-31.
- For a more concise and perceptive look at the period see the chapter of 'Calculated Nature' in Patrick Nuttgens, *Ibid.*, pp. 61-69.
- 7 A concise piece of work dealing with the issues but concentrating more on the educational activities of Jean-Francois Blondel (1683-1756) is the following article: Peter Collins, 'The eighteenth Century Origin of Our System of Full-Time Architectural Schooling' in Journal of Architectural Education, 33, No.2 (November 1979), 2-6, (p. 2)
- 8 Robin Middleton, 'Introduction', A. D. Profiles 17-The Beaux Arts, (p. 2).
- 9 P.Collins refers to an incident illustrating the point as follows:
- "In 1770 the Academy sternly asked Blondel to provide a list of those who absented themselves regularly so that they could be reprimanded officially."
- See P. Collins, 'Architectural Education Two Hundred Years Ago', R.I.B.A. Journal, Vol. 62, No.6, April 1955, pp. 263-264.
- 10 Sigfried Giedion, Space, Time and Architecture, Cambridge, Mass.: Harvard University Press, 1978), p.213
- 11 Though the purpose of the study which was published later as a book was different, resulting in a two volume report with a large amount of data, the A.I.A. study of the architect's role at mid-century (1949-1954) also includes a useful survey of the development of architecture education. It has been used for extraction of some of the data in this review. See: T.S. Banister (ed.), The Architect at mid-century: Evolution and Achievement. (New York: Reinhold Publishing corp., 1954).
- 12 Robin Middleton, *op. cit.*, p. 2
- 13 European Association of Architectural Education (EAAE) chose the topic "Architecture for Developing Countries" as the theme for its Eight International Forum, which took place at the University of Newcastle upon Tyne, 13th. April 1983. A number of papers were presented at this Forum that voiced similar views. See for example, Haan Verschule's paper titled, 'Joint Efforts in Europe and Asia', published also in Stephen Trombley (ed.), Architectural Education 2, (London: RIBA Publications Ltd., 1983), 31-35, (p. 31). The article has different aim but the part titled 'Focus on History' has important observations regarding western efforts in Asian context.
- 14 Walter Gropius, 'The Bauhaus' in Dr. Stephen Trombley (Ed.) Architectural Education 1 London: RIBA Magazines Ltd., 1983) 53-79 (p.55,56). The article is an abridged version of Gropius's essay of 1923.
- 15 Henry Cobb, 'Architecture and University', in Architectural Record, (Sep-

tember 1985), 43-50, (p. 47). Though the article is referred to primarily for the point made, it provides an interesting insight into university - profession relationships.

- 16 The change would later be criticized by Arnauld as unbalanced, blame being apportioned to the Americans rather than the European academics, as seen in his following comment:

The carefully prepared curriculum of Mr. Ware [first head of the Department of Architecture at M.I.T.] and his advisors had slowly changed from a well-balanced schedule of theoretical and practical training to one in which the design course took almost all of student's time... it was largely due to a misconception of the teaching in France by many Americans whose sojourn at the Ecole des Beaux-arts had not been long enough nor intimate enough. (Underlines mine.)

L. Arnaud, 'How Architecture is Being Taught', A.I.A. Journal, (April 1948), p. 149.

- 17 Wm A. Boring, 'Architectural Education in the Past', in Proceedings, International Congress on Architectural Education - London, 28 July - 2 August 1924 (London: RIBA, 1925)p. 26.

- 18 Walter Gropius, from a summary statement given to the press on April 14, 1937 at Boston Architectural Club. Quoted in Henry Cobb, op. cit., (p. 43).

- 19 Robert Maxwell, 'The Two Theories of Architecture', in Architectural Education 1, (London: RIBA Magazines Ltd., 1983), 113-124, (p. 123)

- 20 Ibid., pp. 114.

- 21 One of the clearest statements of this change can be found in the inaugural lecture given by Sir Llewelyn Davies in 1960.

"We must recognize that training in design is not a form of teaching but something quite different. Teaching involves facts and knowledge which are imparted to the students by a teacher. There are no facts about design, and we should not try to give lectures about it or write books about it..."

R. Llewelyn-Davies, 'The Education of an Architect', The Architects Journal, (10 Nov. 1960), 708-711 (p.711).

- 22 Cemal Bora, 'Ilk Turk Mimarlik Okulu', Guven Birkan (Ed.), MIMARLIK, Year 16 No. 155 Jan. 1978, pp. 14-15. The article quotes from an issue of Takvimi Vakayi, (The Official Gazette) of 17 October 1833, No. 78. However the copy of the said paper reproduced in the old script is not the text quoted.

- 23 Selcuk Pehlivanli, 'Mimar Arif Hikmet Koyunoglu ile Bir Soylesi', MIMARLIK, Year 154, Jan. 1977, 8-16, (pp.8, 9).

- 24 Sedat Cetindas, 'Sanayi Nefise Mektebi Alisi ve Guzel Sanatlar Akademisi', MIMARLIK as above. The article is a reprint of an earlier article that appeared in 1943 in which references were made by the author to an article he wrote on the topic in 1922.

- 25 Sedat Eldem, 'Elli Yillik Cumhuriyet Mimarligi', MIMARLIK, No. 11-12, Nov.-

Dec. 1973, 5-11, (p. 6).

- 26 Renato Holod and Ahmed Evin, Modern Turkish Architecture, (University of Pennsylvania Press, 1984) pp. 17.
- 27 Charles Abrams who was involved with the inception of the idea to start a University in the Capital city gives details of the project and the aims behind the inception of the Middle East Technical University. See: Charles Abrams, Mans Struggle for Shelter in an Urbanizing World, (Cambridge, Mass.: M.I.T. Press, 1964).
- 28 For a general review of the Turkish experience see: Haluk Pamir, op. cit. 131-151
- 29 Ahmed Evin Ed. Architecture Education in the Islamic World, Proceedings of Seminar Ten, held in Granada, Spain, April 21-25, 1986, The Aga Khan Award for Architecture, pp. 62.
- 30 Suha Ozkan, 'An overview of Architecture Education in Islamic Countries', Ahmed Evin Ed. Ibid., p. 105.
- 31 Seven comprehensive studies of architecture education at the collegiate level in the United States are cited at the end of the first volume of Architecture Education Study (1981) which can be considered as the eighth comprehensive enquiry along the same tradition. A short summary of each, with the aims, participants and results are given. Most of them have been sponsored by the American Institute of Architects.

William L. Porter and Maurice Kilbridge, (Co-Directors) Architecture Education Study, Volume I: The Papers; Volume II: Case Studies. (Sponsored by the Consortium of East Coast Schools of Architecture; Supported by the Andrew W. Mellon Foundation, 1981)

Similarly in Britain R.I.B.A. have also been at the forefront of studies made of British Architectural Education which are well documented in the annals of its Journal.

National activities have also been reinforced with international activities in the field. For example UNESCO established in 1970 an experts group on the education of the architect which deliberated for some time, producing a final report. The final report, numbered SHC/MD/11 and dated Paris, 21 October 1970, has the following summary of the deliberations that took place in Zurich during 22-26 June 1970.

"During the discussion, the participants of the meeting examined the role and responsibility of the architect in contemporary society; the education of the architect in relation to the social, cultural, and economic development; new trends in the education of the architect including interdisciplinary relationships (physical and technological sciences, human and social sciences; visual arts and environmental design); the place of urbanism and environmental sciences; and the contribution of new concepts of education. The experts also studied trends which indicate future development in the field of architecture education, and made general suggestions for a new curriculum in this field".

(underlines added)

Council of Europe also organised a workshop seminar in Strasbourg during

27-28 November 1975 under the title "CCC Intensified Project No. 66, Curriculum Development in Selected Disciplines - Architecture. Its report is numbered CCC/ESR (75) 106, dated Strasbourg, 5 December 1975.

- 32 Theo Crosby, 'Patrons of the Arts', Architects Journal, vol.179 no.3 (18 January 1974), 24-27, (p. 25)
- 33 "Design" as an issue has been receiving concerted attention of late. Robert Maxwell identifies the first Design Method Conference at Imperial College in 1962 as the earliest instance of offering 'Design Method' to the architectural profession. See Robert Maxwell, op. cit., p. 117.

The Architecture Education Study referred to before had its major resources directed to the study of learning in the design studio. Two of the most significant articles in this study are the following:

Julian Beinart, 'Analysis of the Content of Design', Architecture Education Study, op. cit., pp.3-158.

-----, 'Structure of the Content of the Design', Architecture Education Study, op. cit., pp.159-338.

Another useful work of reference in this concern area is the following study: Richard P. Rauh and David G.Wright, Beginning Design Courses at Schools of Architecture in Western Europe - A Documentary Study, (Harvard Graduate School of Design, Cambridge 1975)

- 34 P. Stringer, 'The Myths of Architectural Creativity', Architectural Design, Oct. 1975, pp. 63-63.
- 35 Amos Rapoport, 'Architectural Education', Architectural Record, (October 1984), pp. 100-103 Rapoport's article together with another one by Robert Beckley started a small debate on 'Studios' in the pages of Architectural Record reserved for architectural education. Of interest amongst them are:
- Already mentioned article of Steven Hurt (see note 5); Michae and Julie Seeling, 'On Flies, bees, and the Architectural Studio', Architectural Record, (March 1985) pp. 51-53.
- 36 The Deans of the Consortium of Eastern Schools of Architecture, 'The Challenge to Schools of Architecture - A Position Paper on the Need to Reform Architecture Education', Architecture Education Study, op. cit., p. 828.
- 37 Alan Levy, 'Total Studio', in Journal of Architectural Education, 34, N.2 (winter 1980), 29-32.
- 38 Ibid., p. 31.
- 39 Elliot Littman, James Mayo, 'Political Knowledge and the Architectural Studio', Journal of Architectural Education, 34, No.3 (Spring 1981) 24-28.
- 40 David Watkin, The Rise of Architectural History, (London: Architectural Press, 1980), p. vii.
- 41 Theo Crosby, op. cit., p. 25.
- 42 Robert Maxwell, op. cit., p. 116-117.

43 Ibid., p. 117.

44 Though rather dated, two particular studies will be mentioned here as being of some interest regarding the totality of Architectural education.

The first one is by Paul Ritter who coined the phrase "Educreation" and chose it as the title for his book on the subject. It is explained as "Education for Creation, Growth and Change". It found general acceptance amongst the student body as represented by the British Architectural Student Association in mid sixties. He does not basically deviate from the prevalent models but tries to give relevance and meaning to various components from his "educreation" point of view.

Paul Ritter, Educreation - Education for Creation Growth and Change (Oxford: Pergamon Press, 1966)

The second study is more interesting though not so fortunate to have seen the daylight as a book. It is a more specific work dealing with one American school but squarely addresses itself to the structure of the school. Under the direction of Edward J. Romieniee as the principal investigator, a group of his colleagues took up the particular case of Texas A&M University and projected changes that would take place in order to arrive at an appropriate and relevant curriculum for the year 1990.

The attempt to relate 'changes' that are taking place and translating these into structure of an architectural course is an important element that needs to be taken up more seriously.

Edward J. Romieniee, Architectural Education: 1990 - A Goal Study for Architectural Education in Texas Through 1990, (April 15, 1968) Available in RIBA Library.

45 Though this fact has often been observed earlier by others one of the earliest critical consideration of its significance can be found in: A. Azoz, Architecture Education, (Unpublished Ph.D. Dissertation, Texas A.M., 1977).

46 Cairo University, Faculty of Engineering, 'Courses of Study Leading to a Bachelor Degree in Architectural Engineering', (Cairo: Cairo University Press, 1974), p. 15.

Though dated 1974, the same courses were current in 1984 when the College was visited by the author.

47 Hasan Fathy is not the only one. Brent C. Bronlin also expresses similar sentiments:

"..This book was conceived some eight years ago when, upon leaving the rarefied atmosphere of architecture school, I contacted the real world and tried to put into practice what I have been taught. I soon realized that the rules taught in school were irrelevant and even destructive when put into practice."

Brent C. Bronlin, The Failure of Modern Architecture, (New York: Van Nostrand Reinhold Co., 1976) p. 7.

48 See for example the 14 volume report submitted to the Royal Commission for Jubail and Yanbu's Directorate General for Jubail City Project, The Jubail

City Industrial Community Plan of 1978 AD (1399 AH), prepared by the Management Consultants to the Royal Commission for the Jubail Industrial Complex, The Saudi Arabian Bechtel Company, Bechtel Incorporated.

Volume 9 deals with "Architectural Design: Education." Chapter 7 of this volume outlines the Criteria and Standards for Polytechnic Design. On page 173 following function is defined:

"..7.28 Dance Studio

7.28.1 Function- This facility will be used for ballet and modern dance training. The dance department will work closely with the music and drama departments to provide interdisciplinary programmes.

20 sq.m min. for 20 students.

One should not be too harsh for such a 'slip', knowing as one does that A ballroom was also incorporated in the programme of a Palace in Istanbul for the use of the Ottoman Sultan/Caliph in 1853 by its Armenian architect.

CHAPTER THREE:

HISTORY OF ARCHITECTURAL EDUCATION IN SAUDI ARABIA: AN OVERVIEW WITHIN THE POLITICAL PROCESS

...The vanquished always seek to imitate their victors in their dress, insignia, belief, and other customs and usages. This is because men are always inclined to attribute perfection to those who have defeated and subjugated them. Men do this either because the reverence they feel for their conquerors makes them see perfection in them or because they refuse to admit that their defeat could have been brought about by ordinary causes, and hence they suppose that it is due to the perfection of the conquerors. Should this belief persist long, it will change into a profound conviction and will lead to the adaptation of all their characteristics. This imitation may come about either unconsciously or because of a mistaken belief that the victory of the conquerors was due not to their superior solidarity and strength but to [inferiority of] the customs and beliefs of the conquered. Hence, arises the further belief that such an imitation will remove the causes of defeat.

Therefore we see the defeated always imitating the victors in their way of dressing, of carrying their arms, in their equipment and all their mode of living...

From Muqaddimah (Prolegomena) by Ibn Khaldun of Tunis (1332-1406). Chapter II, Section 22.

i- HISTORICAL BACKGROUND - THE KINGDOM OF SAUDI ARABIA

When considering a study of architectural education in Saudi Arabia one should bear in mind that the state itself is barely 50 years old and the first architectural programme admitted its students to its courses only in 1967.

At present a population of around seven million^[*] live distributed over the 2,300,000 square kilometres of the Arabian

[*] There are no exact statistics available. Figures vary from 5 to 9 million depending on source, including or excluding some 2 to 3 million expatriates.

peninsula. The State itself is actually forged from two major regions known as Hijaz and Najd (three if one includes the Southern areas that have had associations with the Yemeni hinterland). Though the beginnings of the chain of actions that led to the establishment of a single state in the peninsula go far back to 1902, the present form of the Kingdom was finally formalized in 1932. After having overrun the territory of Hijaz, Abdulaziz al Saud first proclaimed himself as the 'King of Hijaz' in January of 1926. A year later he assumed the additional title of the 'Sultan of Najd and its Dependencies' as well. The Treaty of Jeddah by which Britain, the power broker in the region, acknowledged Abdulaziz's authority over the peninsula is dated 1929. Finally in the September of 1932 the final proclamation came renaming the state as the single Kingdom of Saudi Arabia, reflecting also the reality of the absolute dominance of the House of Saud over the Peninsula. Since then the country has been governed as an absolute monarchy. Membership of the Royal Family after the establishment of the dynasty by King Abdulaziz has now reached around 10,000, a large number of whom take an active part in the running of the affairs of the country in private or official capacities. [1]

This fact has to be stressed very carefully lest wrong conclusions are drawn due to the sensitivity of the area or scanty knowledge as regards the historical background. Despite the presence within the Kingdom of Makkah al-Mukarramah and Madinah al-Monawwarah, the two cities with which history of Islam is so inextricably linked, there is very little in the Kingdom's physical environment to ascertain this past compared with the over-

whelming presence of the twentieth century in its cities and vast expanses of desert.

This new "nation state" is one of many that form the political mosaic of the present day Middle East, having been carved out of the dismembered Ottoman State after the First World War.

In economic terms the new state started its life as a debtor country, its debts to England and other European powers in 1932 totalling 219,000 pieces of gold coins at the time.^[2] It is therefore significant that the first sixty year concession for oil drilling was granted to Standard Oil of California in May 1933 in return for advance funds from that company. By 1939 the situation changed and in that year the revenue to the state from oil amounted to 200,000 gold pieces. The ever expanding growth of the oil production capacity requiring a colossal operational capacity brought three more American oil companies to join Standard Oil Company (SOCAL) in a consortium to be known as The Arabian-American Oil Company, or more popularly by its acronym of ARAMCO, on 31 January 1944.

ARAMCO was destined to become the major instrument that provided logistics as well as resources for the development of a new economic structure for the country which would generate an increasing demand in numbers and quality of human resources. In the process it also found itself, by default if not by design, as the match-maker between the Arab and the western societies. It became the vehicle for the conveyance of new values and standards that would 'revolutionize' the outlook of the local population.

As a result, the fortunes of the country and its political, cultural, physical, social and moral development got very much entangled with ARAMCO and wealth emanating from its oil prospecting. With increasing speed the old economic resources lost their dominance. In return a new economic base emerged opening the doors of the country to the full flood of western development and its attendant materialistic value system. Centuries of isolation and back water life, despite the annual Hajj activity that kept Hijaz in a more cosmopolitan frame of mind, came to an end. The resultant accelerating pressures for radical change found its way into every aspect of life within the Kingdom and in places changed the traditional environments beyond recognition. This change has to be appreciated in order to understand the educational, cultural and "architectural" environment upon which the present study will build its proposals. Since the 1950s the built environment became shaped by new modes of living and types of buildings based on standards current in the western world. The experience itself has no equal anywhere at anytime in the history of the world..

ii- TRANSFORMATION OF THE SOCIAL FABRIC AND PHYSICAL FORM OF THE COUNTRY

Before the discovery of oil, people of the Arabian Peninsula led a very conservative and traditional way of life. The society, similar to any other conservative Muslim community, possessed and exhibited to a reasonable degree a distinct cultural consciousness that was mainly shaped through religious practices. Based on this state of affairs that remained remarkably stable over a long period of time, different regions of present day Saudi Arabia had

developed a rich and locally relevant vernacular architecture within its urban typology. This urban configuration was maintained by traditional builders in whose hands local building materials and techniques were kneaded with the cultural consciousness and given the particular shapes that the regions exhibit.^[3] This activity continued without a break well into the third decade of the present century. The severity of the climate and the extreme limitation of resources directed the local population to a state of self-sufficiency whereby they learned to match their expectations to the limitations of the world within which they lived. Thus a social and physical environment was developed that was adequate to the needs of the population in addition to being appropriate and responsive to local conditions. Moreover it possessed a charm and richness that could not be bought or generated with sheer technology.

The sudden influx of wealth towards the middle of the twentieth century led to the rapid emergence of a middle class which immediately set out to acquire all the trimmings of a highly sophisticated life style. There was no waiting for the society as a whole to evolve naturally and absorb the benefits of the available technology. With sustained encouragement of the new power centres the situation speedily changed and a kind of rupture occurred with the past, the most dramatic effect being the foreign garb dressed over the built environment as well as the erosion of the previous self sufficient nature of the economic and social order.

The abandoning of local and traditional materials as well as the

building process started first in the oil producing regions in the Eastern towns during the 1940s and spread with accelerating tempo into other areas of the Kingdom.^[4] A variety of building types such as Corporate body headquarters, offices, hospitals, warehouses, and most important of all, residential units were initiated through ARAMCO in addition to land division projects in and around its activity zones. All these building types will play a major role in the shaping of things to come in other areas.

The second major element that has had a decisive effect on the shaping of the environment, (though still very much linked to the first one which was ARAMCO), was the political decision of the reigning King, Saud bin Abdulaziz, son of the founder of the Kingdom who decreed in 1952 the movement of the administrative functions of the state, hitherto retained in Makkah and Jeddah, to Riyadh.^[5]

Due to its focus as the heartland of Islam and long tradition of learning, the Hijaz maintained a superior position as the culturally more advanced, intellectually more active and more literate part of the Arabian Peninsula. After its capture by Abdulaziz Makkah continued to be the religious capital and despite the political power being established in Riyadh, administrative matters of the state was left to flourish in Makkah and its port city of Jeddah.

The decision to transfer the ministries to Riyadh necessitated large scale housing for the movement of personnel. Local techniques, materials and skills available would not be able to cope

with the scale of the building work. However recent activities undertaken by ARAMCO showed that with the technology available in the West mass housing was a distinct possibility. Additionally any project had to be "modern" and appeal to the heightened material expectations of the up-coming civil service and middle classes in order to be attractive enough to induce the Hijaz civil servants to leave their preferred traditional environment and move to the socially hostile environment of Riyadh.

"Malaz" Public Housing was the result.^[6] The impact of this government sponsored and U. S. Corps of Engineers' designed project was out of proportion to its size, but understandable, knowing that it carried the seal of official approval. Whilst this colossal building activity was being undertaken in the Eastern Provinces and Riyadh, local participation by native professionals in the design activity was non-existent. It could not be otherwise as by 1950 there was no government office dealing with housing as such, nor were there any Saudi architects in the Kingdom. The few architects in the city of Riyadh at the time were the citizens of other Arab countries like Egypt, Syria and Lebanon, and a number of western architects who came to the city through their contracting ventures. As a consequence it cast the die by which western ideas and ideals of urban growth current in the late forties and early fifties were assuredly transferred into the Arabian peninsula.

The final confirmation of this trend was made through Doxiades Associates' Master Plan for Riyadh who were assigned the task of planning the capital in 1968. The final Master Plan was submitted

for approval in 1971. These were accepted and sanctioned by the Saudi Arabian Council of Ministers in 1973. Though it was supposed to suffice the needs of the Capital City till the year 2000 it would later be criticized and modified due to its failure to foresee the extent of expansion that Riyadh was destined to experience!^[7]

However certain lasting though negative accomplishments of the plan should be credited to the authors. Not only did the plan institutionalize the grid iron pattern and the villa type of housing by establishing set back regulations on plots, it managed to introduce new value systems through its zoning regulations. For the first time in its history segregation of populations according to income was introduced into the Saudi Arabian society through zoning regulations and the size of plots. This novel idea would catch on and be carried to other new urban centres of the Kingdom with its associated social ramifications.

As a result of the ARAMCO directed land division and construction activities in the Eastern provinces, together with the new housing project in the capital, and the Doxiades Master Plan for Riyadh, the grid-iron pattern was clamped over all the new developing urban centres of the Kingdom as the "modern" transportation network and the "villa" as the detached dwelling, became the preferred house type for all.^[8]

The situation was not any different in the Hijaz, especially in Jeddah which still retained its economic importance as the major port of the region now renamed the Western Province. Jeddah was

the major port through which Hejaz was linked to the outside world, especially to the Islamic world, thus deriving the benefits of the ummah-wide cultural contacts in absorbing their influences and developing its own traditional built environment in peaceful harmony with the prevailing social order. The very first concrete house ever to be built was reported to have been realized only in 1929 for the family of a certain Zainal. However, it did not start a rush to this new material, city scape remaining somewhat stable till mid century.

The order by King Abdulaziz, in 1948, for the removal of the old coral stone city wall which defined the limits of Jeddah up to then, not only signalled where the source of authority was but also broke down the barrier to innovation and change in an otherwise conservative society. Suburbs started to grow in a linear fashion beyond the perimeter of the destroyed wall into the surrounding desert. The unwritten laws and invisible controls that the compact old town within the walls exerted as regards the shape of things to build was no longer there in 1950 ushering in the first decade of constructing, adlibidum, characterless buildings in the hands of incompetent foreign professionals. What was built was a muddled mixture of forms picked from various regional as well as supposed international styles that generated a nondescript architectural vocabulary completely removed from the tranquil traditional forms and having no relevance with any rational thought. Encroaching western cultural influences and the expanding influence of the information media was destroying any faith that used to exist in the old order, and unfortunately failing also to develop any relevant aesthetic taste amongst the

society who could than guide the effort with their patronage.

In contrast to these developments, the few public buildings that were erected, like the Khozzam Palace, the Ministry of Foreign Affairs, and the later al-Hamra Guest Palace, were decidedly designed in a "neo-seracenic" style. It was an attempt to revive a civic monumentality through the works of prominent Egyptian architects who were already conscripted into the Beaux Arts tradition. In these might lie the germs of the 1960's rush to incorporate frills and grills in the facades of buildings as a mark of their nativization or "Islamisation".

The ensuing flow of cash from the immense oil wealth into the public and private domains generated the typical material dynamism which, in the absence of any established strong cultural checks and balances, swept over whatever was left of the traditional environment replacing it with the present glass and concrete "modern" city.

At the peak of its expenditure in 1982 government had an annual volume of construction amounting to nearly 40 billion dollars (130 billion SR). With such a market there was no shortage of supply in architectural ideas, or theories from armies of professional salesmen that found their way into the region. The emerging young generation that would enter university courses in environmental design were accultured within such material prospects and transformed urban reality. However, the drop in the expenditure to a mere 4 billion dollars (13 billion SR) by the middle of 1984 is another facet of the present day reality. [9]

iii- EMERGENCE OF PUBLIC EDUCATION

A number of educational issues need also to be reviewed in order to complete the general picture and achieve an appreciation of the background. The aspect of change and economic growth initiated in the Kingdom was bound to outpace social change, particularly in the field of educational attainment. One of the most formidable constraints on the development, in its physical as well as in its culturally and socially relevant dimension was an abysmally low rate of literacy in the country as a whole. This was no more than 5 to 10% at the beginning of the 1960s.

Traditionally education has been considered as being really a public affair with various institutions of learning being provided for and run by the public at large rather than the State. In the past these were handsomely endowed by various patrons, private as well as from within the ruling sections, and maintained with the utmost freedom that scientific and scholarly effort demanded. Such institutions are prone of course to deteriorate with the weakening of the social fabric and declining material means available from voluntary contributions of the public. This was what happened in the peninsula too. The new state would be starting from a nearly nonexistent base in the field of education.

Quantitatively the expansion in the field of education has been impressive, to say the least. From 1960 to 1970 the number of primary schools in the state system nearly tripled rising from 582 to 1472. The number of pupils attending them rose from 93,725 to 342,596. Parallel to this expansion child-teacher ratio fell

from 28:1 to 23:1. Similar developments took place in the secondary education too bringing pressure for the provision of higher education. [10] In 1960 a programme for education of girls was also started, gradually expanding from elementary education to technical colleges for child care and handicrafts. By 1969 elementary schools for girls rose up to nearly 300 whilst the student population reached 95,000.

With such a dramatic expansion there could not be any possible way out except the importing of systems and forms as well as personnel from outside. Similar to imported technology the imported systems of education could also be seen to have their mis-fitting parts in the existing society, and bringing with them a number of inbuilt cultural and value-added components. One can cite the case of the Scouting Institution. A Saudi Arab Scout Society was established in 1961 with the Minister of Education at its head. In 1969 it boasted a membership of 9780 which paraded at special ceremonies in full western scout uniforms.

Tertiary education showed a similar development. The first major technical educational institution of the country, the College of Engineering in Riyadh, was established in November of 1962 starting its life with 17 students. It was annexed to the University in 1967. The University itself (originally named as "King Saud", later quietly exchanged for "Riyadh" after the second King was deposed in a palace coup, but lately reverted to its original name once more) was inaugurated in 1957, the same year when the first batch of selected young Saudis were awarded scholarships under royal patronage to pursue their studies abroad. The College

of Petroleum and Minerals, the second major tertiary education institution, was started in Dhahran in 1963, later to be upgraded to full university status. Due to its patronage and association with the source of wealth of the Kingdom it would attain in due time a prestigious place amongst the universities of the country. King Abdulaziz University in Jeddah came into being in 1971, integrating within it The National University of Jeddah which was established in 1967 through private initiative. Finally King Faisal University was established in 1974 next door to University of Petroleum and Minerals in Dammam, in order to provide education in medicine, agriculture and architecture to the population of the Eastern Region. By then there were more than 1000 Saudis studying in the United States and half as many again in West Germany, Lebanon, Britain, Egypt and elsewhere.

This clear preference for "foreign" institutions will so worry the government of the more conservative late King Faisal that a few years later it will stop giving scholarships for first degrees abroad and start an expansion programme for its own undergraduate studies. By 1980 seven universities got established having a total registered student body of around 45,000. In 1983 the numbers rose to 75,000. At present (1987), it somewhat stabilized around 80,000.

It is with this background that the history of architectural education in the Kingdom has to be considered. The present needs as well as the future manpower requirements of the country would have to be evaluated in proportion to the material wealth of the past years and the more sombre expectations of the future.

In establishing their universities and developing colleges of engineering, Saudi Arabian authorities seem to have taken two major decisions of decisive significance. In the first place they adopted the American system of semesters and credit hours for the academic organization of the University courses. Secondly for medicine as well as engineering faculties they chose the English language as the medium of instruction.

The first decision would be a reflection of the political reality as observed by Ibn Khaldun quoted at the beginning of this Chapter. The United States of America being the super power most prominent in the region and in the Kingdom itself, would be the first example to be considered when thinking of adopting ready made educational institutions and systems. It would be natural and understandable under the circumstances to adopt American institutions as models in areas that these institutions excel. One should note that not only the arts, sciences and technology faculties were structured as such but the faculties of Shariah (Theology or Divinity) were also fitted into the same format... "Magester" and "Doktorah" are often heard and printed titles for Master and Doctor of Philosophy degrees in all the Universities. It is another one of those ironies whereby Arabic is scientifically known to be the richest language in the world with its structured potential to expand infinitely and to contain the largest number of words from its own root words, whilst academic titles are borrowed from other sources. Adoption of western structures for teaching of theology looks unreasonable when

contrasted with the enormous amount of experience accumulated behind the teaching of Islamic sciences, with its own methodology and structure.

The second decision regarding the adoption of English as the medium of instruction (as opposed to Arabic) was justified on grounds of (non)availability of textbooks and teaching staff. So from the start these institutions would be manned by expatriate academic personnel and be dependent on western textbooks. It may make an interesting study to look into the composition of foreign faculty running such units and its effect on the value system of the country. For the purpose of a simple illustration, the composition of the academic staff at two schools of environmental design, those of the University of Petroleum and Minerals in Dhahran and King Abdulaziz University in Jeddah was investigated at the point of their full maturity, that is the year they graduated their first batch of degree holders.

The University of Petroleum and Minerals had in its College of Environmental Design during the 1985/86 academic session a complement of 28 staff members of which only 6 were Saudi Nationals. The largest contingent with a membership of 10 were American citizens. Another 4 came from European countries making the West originated faculty 50% of the total. The remaining 8, though originating from Middle Eastern countries, had done their graduate studies in American or British institutions some having also obtained their first degrees in the West. This last observation would apply to the Saudi staff as well. [11]

In the case of King Abdulaziz University, the School of Environ-

mental Design had a complement of 29 staff members in the 1981/82 academic session of which only 3 were Saudi nationals. Britain had the largest membership with 10 staff. Another 5 came from European countries making a similar ratio of West originated faculty as that of U.P.M. Of the 11 remaining staff members only 2 did not venture into Europe or America for higher study one of them having remained satisfied with a Ph.D. from a (French medium) Jesuit Academy in Beirut. [12]

This state of affairs is not unique to Saudi Arabia. As was seen earlier when architectural education was considered in general, other Muslim countries with much less justification for doing so did recruit foreign faculty to staff their institutions.

Present estimates are that between some 70 to 120 architecture and planning firms are established in the Kingdom, mostly staffed with professionals of foreign background that make up the most of their production as well as design cadres. The majority of local graduates have been absorbed into the public service, usually doing administrative jobs, which somehow also agrees with the preferences of the graduates in general. Very accelerated promotion of early graduates to positions of administrative authority has also generated false expectations amongst the student body. Inability of the system to satisfy these expectations in future will generate social repercussions. The inevitable replacement of the foreign element in the private sector by local graduates will have to be realised bearing in mind two important concerns. It is expected that the lower echelons of the offices dealing with reproductive work will have to be attended first. This will

immediately raise the question of professional experience which hardly exists in the young graduates. The implications of this to the architectural education as practiced at present have also to be taken into consideration. In the second place, material expectations of the young graduates has to be matched with the very low salaries that experienced foreign sector is willing to work for.

According to a study carried out, around 500 local graduates joined the ranks of the profession since 1965. With the present annual output of around 130-150 architectural graduates, the strength of the membership of the discipline will reach to around 1500-2500 by 1990. This seems to be the saturation point for a stable population of seven million according to standards already established in other developed countries. The replacement of 5% to fill the gaps due to retirement or death would only require an annual output of 100-150 graduates. Currently projected figures are 300 graduates per year.^[13] This points out to a need for a qualitative and quantitative re-evaluation of the situation and establishment of more realistic programmes.

v- ACADEMIC AIMS OF THE SCHOOLS OF ARCHITECTURE IN SAUDI ARABIAN UNIVERSITIES

At present out of the seven existing universities five are offering courses in "Architecture" and related disciplines. They will be taken up in the following pages in chronological order of their establishment followed by an overview of their curriculum contents.

1. KING SAUD UNIVERSITY – RIYADH
Department of Architecture established in 1965–66 as a constituent part of the College of Engineering like any other engineering departments of the college.
2. KING FAISAL UNIVERSITY – DAMMAM
College of Architecture and Planning established in 1974–75 as an independent College on its own in the newly established University.
3. KING ABDULAZIZ UNIVERSITY – JEDDAH
School of Environmental Design established in 1975–76 as a constituent part of the College of Engineering consisting of three departments, those of Architecture, Landscape Architecture and Urban and Regional Planning.
4. UNIVERSITY OF PETROLEUM AND MINERALS – DHAHRAN
College of Environmental Design established in 1979–80 as an independent college with three departments, those of Architecture, Architectural Engineering and City Planning. (In December 1986 the name of the University was changed to King Fahd University of Petroleum and Mineral Resources. However in this study the old name will be retained as most documents refer to it with the original name).
5. UMM AL QUR'A UNIVERSITY – MAKKAH
School of Al-^cImārah established in 1983–84 as a department in the College of Applied Sciences and Engineering to be part of a group of future engineering departments planned to develop into a separate college.

The aims and objectives of the four established schools will be

quoted below at length, using each university's catalogue as the source. Statements that seem significant will be underlined for later reference. All the underlining is the author's.

A- KING SAUD UNIVERSITY - RIYADH

The DEPARTMENT OF ARCHITECTURE at Riyadh was brought into existence with the co-operation of UNESCO as part of the first College of Engineering of the country. Initiated at first as the "Department of Architectural Engineering" it was transformed two years later into the Department of Architecture. The College Catalogue of 1982 gives the aims and objectives of the Department as follows:

The Department of Architecture, within the College of Engineering at the King Saud University was established in 1387-88 A.H. Its main goal is to respond to the manpower needs of the Kingdom for architects who can assume responsibilities in the areas of design, research and construction management.

The program requires the study of liberal arts (mathematics, natural sciences, etc.) sequences of studies in environmental sciences, structures building technology, and theoretical roots of architecture, and the studio work in architectural design. The sequence courses in architectural design are the core of the program. The curriculum of the program is rooted in a philosophy that architectural forms are the products of a wide range of factors (aesthetic, social, behavioral, economic and environmental). Such view, particularly, becomes the guiding principle in the studio, where the student is directed towards developing skill and creativity that are necessary for the synthesis of the motivated design information, and transformation of this information into three dimensional forms. The final designs are expected to be functionally and aesthetically compatible.

The Department of architecture embraces new advances and discoveries for the betterment of today's Saudi physical environment, with a conscious concern for the cultural values that the environment represents. The Department presses its available sources or research, facility and manpower to contribute to the body of creative professional knowledge in architecture and other design fields.

The program prepares the students for architectural, professional practice, and also for the graduate studies in the

fields of architecture, urban design and planning.[14]

B- KING FAISAL UNIVERSITY - DAMMAM

The COLLEGE OF ARCHITECTURE AND PLANNING at Dammam took as its model American schools and had a number of experts from the United States of America helping its establishment. The name chosen for the College echoing that of M.I.T. is one overt sign of this. The College Catalogue for the year 1982 explains the nature of the College as follows:

Since the opening of the College [of Architecture and Planning] in 1975 with an enrollment of about sixty students, the student body has grown to over 400 in the academic year 1980-1981. It is anticipated that the ultimate enrollment figure will reach 800, one hundred of whom will be female students.

CURRICULUM

The curriculum of the College of Architecture and Planning has been designed to meet the educational objectives of the College. These may be stated as a list of areas in which the College aims to encourage the student's development:

- Understanding and identifying with Islamic values and traditions;
- Communicating professionally in Arabic and English;
- Thinking logically and developing skills of analysis, synthesis and application;
- Understanding principles of science as they relate to environmental design;
- Mastering skills and techniques of Planning and Architectural Design.
- Acquiring a perspective on architectural theories of past and present with emphasis on those of Islam;
- Understanding building technology and acquiring the necessary skills in engineering science.
- Learning about management of professional practice in Saudi Arabia;
- Gaining an understanding of the related fields of urban planning, landscape architecture, and interior design.
- Studying in depth in a chosen field of concentration such as urban planning, landscape architecture, interior design, engineering and technology.

The College at present offers a five year course leading to a Bachelor degree in Architecture and Planning.,

The courses leading to the Bachelor degree follow a common programme for the first three years which is directed towards establishing a broad-based education for those entering the professions. Most courses are taught in the context of the developed technology of the Western world. However, considerable emphasis is placed upon the special characteristics of life in the Arab World and the problems relating to the rapid pace of urban development and growth of the population of the Kingdom of Saudi Arabia.

In recognizing the special requirements of an architect-planner in Saudi Arabia, the College base is created during the first three years, while electives and advanced study are part of the last two years' curriculum.

During the first year a student spends considerable time on studying the English language and completing such requirements as mathematics and science. He is also exposed to architectural design and is expected to begin developing his drawing skill for visual communication. Basic concepts of structures, construction technology, and environmental services and controls are introduced during the second half of the year.

In the second and third years these basic concepts are deepened and it is expected that students will become more knowledgeable and mature in dealing with architectural design problems by taking into account structures, construction technology, and environment.

During the third year the advanced topics of landscape architecture, interior design, and urban planning are introduced. The fourth and fifth years are aimed at perfecting architectural skills and broadening a student's appreciation of related fields, such as management and professional practice.[15]

C- KING ABDULAZIZ UNIVERSITY - JEDDAH

The SCHOOL OF ENVIRONMENTAL DESIGN in Jeddah has also developed with the help of United States, having been commissioned to Harvard professors who put together a novel two tier programme echoing the fashionable concerns at that period in the States.[16] College catalogue for 1981-82 (and 1983-85) defines the purpose and structure of the School as follows:

The School of Environmental Design was established in the Fall of 1976/1396 H as a department in the College of

Engineering. The S.E.D. offers three separate 10-semester programs (excluding the first two semesters) in Architecture, Landscape Architecture, and Urban and Regional Planning, leading to the Bachelor's Degree in each of these professional areas.

PURPOSE OF THE SCHOOL OF ENVIRONMENTAL DESIGN

The professions that comprise Environmental Design are related in many ways. In recognition of this relationship, the three departments of the S.E.D. share a common purpose. As a unique Saudi Arabian institution, the S.E.D. seeks primarily to understand the physical, biological and social systems which comprise the Kingdom, and the opportunities and constraints which these represent. The S.E.D. is concerned with the planning, design and management of these natural and man-made systems for the purpose of achieving human health and well-being. It recognizes the spiritual needs and aspirations of the people of the Middle East, appreciating the past, yet oriented to the future.

The S.E.D. prepares students to assume professional responsibilities upon graduation. To achieve this, emphasis is given throughout the program to real rather than to theoretical projects and to the solution of practical problems, based on commonly understood humanistic principles. Solutions to these are sought within the context of the climate and fragile ecology of arid lands and the rich Islamic and Arab traditions in design and land use.

ACADEMIC PROGRAMS

(Core and Professional Programs)

In keeping with the principle that the three departments of the S.E.D. are interrelated with a shared common purpose, and to provide a common experience and knowledge to the students in the three profession of Architecture, Planning and Landscape Architecture, a common (or core) academic program has been developed for the first six semesters. The remaining six semesters (7th. to 12th.) represent the professional program years, and are separate and distinct for each specialized department. Completion of the entire S.E.D. program involves twelve full semesters of study.

Core Program

The Core Program has as its purpose to provide students with a broad understanding of man's relation to his physical, social and aesthetic environments. Emphasis is given to Islamic culture, literature, art and architecture, especially as they relate to environmental design. These courses, required of all students in the S.E.D., occupy the first six semesters. Towards the end of this Core Program, students are sorted into three programs for professional level studies in the last six semesters. The completion of the Core Program does not necessarily guarantee a place in the professional program of his first choice. The sort is made on the basis grades earned, aptitude shown, student desires and faculty decision.

Departmental Programs

The Departmental Programs have as their objective to prepare graduates to assume professional responsibilities as architects, planners, or landscape architects upon graduation from the University. The emphasis in the last six semester is on professional competence and the development of adequate knowledge and skill to engage in professional practice.

DEPARTMENT OF ARCHITECTURE

It is the intention of the S.E.D. to provide Saudi Arabia, and indeed the whole Islamic world, with two types of architects: the imaginative inspired designer, and the efficient organizer and manager. It is hoped that designers who graduate from the S.E.D. will contribute to the creation of an environment not only generally logical and imaginative but also of high spiritual aspirations that will reach the foundations of the Islamic tradition, and contribute to its rebirth and its expression through implacably contemporary media. All courses, seminars, laboratories, workshops and studios have been structured to achieve this goal.

There is no point in trying to generate inspired programs and designs without at the same time developing imaginative minds to implement them. This, in a similar and parallel way to design, course in management and professional practice have been organized to face up to the fact that the realization of the built environment requires not only modern know-how, but also sensitivity and imagination in the re-discovery and creative adjustment of age-old methods and processes.

To develop excellence in designing the built environment, intellect, imagination and sensitivity must be brought to bear on the issues and opportunities of physical design. Stress is placed by the Department on an understanding of conceptual principles and patterns, in addition to operational skills. Basic issues are the primary concern, such as man's habitat.

The Department intends to prepare students for the assumption of professional responsibilities upon graduation, to achieve this, emphasis has been placed, not only on design skills, but also on the building industry and construction management. Because of the special climatic conditions of Saudi Arabia, care is particularly given to all aspects of climatic control systems. Throughout the program, attention is given to Islamic and Arabic traditions and culture and their appropriate consideration in design.[17]

D- UNIVERSITY OF PETROLEUM AND MINERALS - DHAHRAN

The University was established originally as a community college

by the ARAMCO group, the oil company that has had a major share in the shaping of Saudi Arabian physical environment in addition to its economic influence. It was absorbed later into the national educational framework of the country. It has on going cooperation agreements with various American academic institutions. Originally conceived as a Technical University, it had a "Department of Architectural Engineering" within the College of Engineering. This department was absorbed into the new COLLEGE OF ENVIRONMENTAL DESIGN. The College catalogue for the year 1981-83 defines its philosophy and structure in the following terms:

The College of Environmental Design is the newest of U.P.M.'s five undergraduate colleges, having been implemented during the 1400-1401 (1980-1981) academic year. The College was established to aid in meeting an intense demand for professionals required for the extensive program of construction that exists throughout the Kingdom of Saudi Arabia. The College was planned to bring together those design professions that are concerned mainly with the built environment; it deals with both the natural and the man-made aspects of this environment, and prepares students for the professional practice of design on the different scales of this environment. The College offers undergraduate degrees in Architecture, Architectural Engineering, and City Planning.

Philosophy

The educational philosophy of the College of Environmental Design, as the name of the college itself suggests, is to develop interdisciplinary relations between the design professions that share a common concern for the design of the built environment. In recognition of this commonality, the College has been organized as one school with a shared common purpose and not merely as an assemblage of departments. The realization of the philosophy comes with allowing students, whatever their chosen specialty, to share common knowledge and common classroom experiences through shared environmental design courses.

Undergraduate Programs

Undergraduate degrees are offered in three curriculum areas: Architecture, Architectural Engineering, and City Planning. The Curricula for these programs have a number of commonalities, but differ in various ways to allow students to specialize in their chose professional areas. In harmony

with the nature of U.P.M. as a technological university, and in consideration of the present and future needs of Saudi Arabia in the environmental design professions, all the College programs introduce basic science courses and are heavily oriented toward the teaching of physical design principles and the application of advanced technology.

Architecture

The major emphasis of the Architecture program is design studio experience. The studio is organized as a series of design problems which vary in both scale and complexity, allowing students to acquire a broad perspective of the problems associated with designing the built environment. This studio experience is supported by parallel studies of design history and theory, structural analysis, the building industry, and construction practices. Although emphasis is placed on developing design skills and acquiring knowledge related to building construction practices, the natural and the socio-cultural factors of design are also stressed; attention is given, throughout the program, to Islamic and Arabic traditions and culture, and to their appropriate consideration in design.[18]

E- UMM AL-QURA UNIVERSITY - MAKKAH AL-MUKARRAMAH

The SCHOOL OF AL-‘IMĀRAH at Makkah did not follow the patterns outlined before. It also made use of consultants from different parts of both the western as well as the Muslim world but did not commit itself to the existing collegiate school of architecture models. Instead it attempted to have contextual as well as structural relevance to the ideas embodied within the concept of Al -‘IMĀRAH. It forms the major theme of this study and will be the model to be dealt with. It has yet to produce its own publication identifying its aims and objectives and also to prove (hopefully) that it indeed is a unique institution in comparison to the other schools.

NOTES ON CHAPTER THREE

- 1 The following books can be referred to for further information as regards the establishment of the State:

Christine Moss Helms, The Cohesion of Saudi Arabia (Baltimore: John Hopkins University Press, 1981), especially pages 127-150.

Kamal Salibi, A History of Arabia, (Beirut: Caravan Books, 1980)

Helen Lackner, A House Built On Sand, (London: Ithaca Press, 1978)

David Holden and Richard Johns, The House of Saud, (London: Sidgwich & Jackson, 1981)

Size of the Royal Family obtained from: Muhiadin R. Trabzuni, Development of Human Resources Through the Application of the Concept of the Public Comprehensive Community College to Saudi Arabia. Unpublished Ph. D. Thesis submitted to the University of Arkansas, May 1983.

- 2 Harry St. John Philby, Arabian Days, (London: Hale, 1948), p. 290.

- 3 See for example:

Kaizer Talib, Shelter in Saudi Arabia, (London: Academy Editions, 1984). It covers the natural environments of the Kingdom within the climatic zones and the responsive architecture that has evolved within them. The last thirty pages deal with contemporary living environment as well.

- 4 An account of the training and practice of local masons and master craftsmen before the scene started to change can be found in: Yousef M. O. Fadan, The Development of Contemporary Housing in Saudi Arabia (1950-1983): A Study in Cross Cultural Influence Under Conditions of Rapid Change, (Unpublished Ph.D dissertation, M.I.T., 1983) pp. 84-90.

Mr. Fadan has carried out interviews with a number of local traditional craftsman and details their training process. He reviews how the new circumstances completely eclipsed the old craftsman, with the emergence of entrepreneur contractors who had practically no knowledge or insight into the traditional building process. There is also a very detailed study of ARAMCO's contribution to the shaping of cities and residential buildings in the country.

An account of the craft institution that regulated building activity can also be found in: Abdulla Y. Bokharie, Jeddah: A Study in Urban Formation, (Unpublished Ph.D. dissertation, University of Pennsylvania, 1978) p. 178. Information is based on those supplied in Abdul Qaddous al- Ansari, et. al., Jeddah: Kitab al- Manhal, 1965.

A most useful source as regards the dramatic changes that took place in the building process is the following:
Carleton S. Coon (supplemented by Peter G. Franck), "Operation Bultiste:

Promoting Industrial Development in Saudi Arabia", in Howard M. Teaf Jr. and Peter G. Franck (editors), Hands Across Frontiers (Ithaca, N.Y.: Cornell University Press, 1955) pp. 330-350.

- 5 Yousef M. Fadan, op. cit., p. 203.

See also: Saleh S. Al-Hathloul in Tradition, Continuity and Change in the Physical Environment: The Arab-Muslim City, (Unpublished Ph.D. dissertation, M.I.T., 1981) pp. 143-171

- 6 The district of "Malaz", built outside the city on the Airport Road, covered an area of 500 hectares and consisted of 754 villas, 180 apartment units, a race course, a football stadium etc. Detailed information can be found in previously referred works of Fadan and Al-Hathloul. See Saleh S. al-Hathloul, op. cit., pp. 162-166.

- 7 Doxiades' master plan for Riyadh is dealt with at considerable length by Saleh al-Hathloul, op. cit., pp. 172-217

Similar to Riyadh Doxiades also clamped upon Islamabad, the new capital city of Pakistan, the most rigid grid of squares. He is quoted as having said that 'There is no reason for the main roads to be curved, unless the form of the landscape compels us to do so.' Thus he has allowed virtually no curves in the city though the Potwar Plane on which the city is laid upon, in decidedly undulating its form having been eaten into by deeply eroded water courses... As aptly commented in Architectural Review of March 1967, "Doxiades's layout for the area showed just how irrational 'rational' planning can be. See: N. T., 'Islamabad - A Progress report on Pakistan's Capital City' Architectural Review, (March 1967) pp. 211-216.

The interesting aspect of Doxiades's plan was that his insistence on the rigid grid-iron was considered to be in accordance with Islam because it was "based on pure geometry". However the absence in the plan of a "grand National Mosque" was somehow not noticed by the administrators of the Islamabad project! See Kamil Khan Mumtaz, Architecture in Pakistan, (Singapore: Mimar Books, 1985), pp. 188.

- 8 Saleh al-Hathloul, op. cit., pp. 144-171

Yousef Fadan also deals with the topic in his dissertation mentioned earlier. See pages 131-156.

- 9 This state of affairs can be illustrated with one single institution's activities, The Real Estate Development Fund. The fund was established by a Royal Decree M/23 dated 11.6.1394 A.H. under the general directorship of the Minister of Finance. It was one means found to distribute the oil wealth to the citizens, ostensibly to aid people become home owners. Any citizen who did not have a house could apply for a loan of 300,000.- S.R. (85,000 U.S. \$), interest free for twenty five years. As a result, during the first five years of its life, the fund disbursed with 42 billion S.R. (12 billion U.S. \$) and got 200,163 units constructed. The second five year ending in 1404 A.H. saw granting of loans totalling 41,6 billion S.R. with a net figure of 188,539 units having been erected. The units had to be done according to funds specification and approval of design. Thus a strict western oriented plan division and apartment block form became the norm. However, the end of the second five year also started with 64,000 housing units being empty in Jeddah only! indicating the decline in overseas

labourforce and ofcourse changed economic circumstances. (Figures obtained from the annual report of the fund for the year 1405 A.H.)

- 10 A short but concise information regarding the progress of educational activities in the Kingdom can be found in: Abdulla Mohamed Al-Zaid, Education in Saudi Arabia - A Model With Difference, (Jeddah: Tihama Publications, 1401-1981)

See also the Ministry of Information publication, Saudi Arabia - Land of Achievement, book VIII, third edition (probably 1970), pp. 24-49.

- 11 The source used for the computation of these figures were: Brooks Washburn (Editor), Review 85 - College of Environmental Design, U.P.M. (Dhahran: College of Environmental Design-U.P.M., 1986), p. 94-100.
- 12 The source used for the computation of these figures was: Bulletin of College of Engineering-King Abdulaziz University, 1981/82, (Jeddah: College of Engineering-K.A.U., 1981), p. 125
- 13 Dieter Ackernecht, and Hugh Burgess, 'Environmental Design Education in Saudi Arabia: An Assessment of Manpower Needs and Program Development', paper presented at the Second Saudi Engineers Conference, Nov. 1985 held in Dhahran. Reprint of apers, Vol 1, pp. 422-439.
- 14 King Saud University, Undergraduate Bulletin (College of Engineering) 1402-1403 A.H., 1982-1983 A.D.

It should be noted here that by a decree of the Council of Ministers Department of Architecture has been separated and upgraded into a faculty of Architecture and Planning on its own right in 1985. It thus became the third one achieving an independent status from the faculties of engineering. The old course structure is being reviewed to streamline it further, but in the meantime the old continues to be implemented.

- 15 King Faisal University, Catalogue 1402/1982, Al-Hasa, Dammam.
- 16 Nadir Ardalan, 'Architects in America - Design for Islamic Cultures', Arts and the Islamic World, 3, No. 3, (Autumn 1985) pp. 46-50.
- 17 King Abdulaziz University, College of Engineering Bulletin 1981-1982.
- 18 University of Petroleum and Minerals, Undergraduate Bulletin 1981-83.

Zamil A. R. Mukrin and Paul Gabriel, "Environmental Design Education in Saudi Arabia, the UPM Experience", paper delivered at 1st. Saudi Engineers Conference held in Shaban 1403/May 1983 in King Abdulaziz University-Jeddah.

CHAPTER FOUR

COMPARATIVE EVALUATION OF ARCHITECTURAL PROGRAMMES AT SAUDI ARABIAN UNIVERSITIES.

"Any discussion of architecture education must start with the nucleus, which is the teaching of architectural design itself. This process of the analysis of complex technical, programmatic and environmental information and its creative synthesis in plans for a built form that will satisfy both practical and aesthetic needs is embodied in the studio/workshop system. The studio/workshop is the heart and head of architecture education and it dominates the rest both attitudinally and in time committed. ...Yet it is an imperfect system.

We must start by acknowledging that as a system it never has been fully developed...

Without dwelling on the subject, let us summarize the uncorrected weaknesses of the studio/workshop system as now generally used. We have, to start with, failed to find practical ways to integrate non-studio course material into studio/workshop exercises. Further, we have not organized general or partial schemes of design-related information for students to draw upon systematically for use in the design process. We have not described methodologically the iterative nature of designing sufficiently to allow students to guide themselves and judge their progress at arriving at design solutions.

We have not given adequate attention to developing integrated and progressive series of studio/workshop problems calculated to produce a total learning effect..."

From The Challenge to Schools of Architecture - A Position Paper on the Need to Reform Architecture Education, by The Deans of the Consortium of Eastern Schools of Architecture, U.S.A., May 1973.

Architectural academic programmes in Saudi Universities show a greater divergence for the size of the population they serve than most countries. The differences are not based on local needs either, for in the modern context present day needs of the country do not differ very much between various regions.

In the examples to be reviewed here, the programmes in use during the 1981-82 academic year will be compared and evaluated. This particular year has been chosen as the bench mark as it was the year of initiation of the study that led to the conception of the structure and programme of the fifth architectural school of the Kingdom at Makkah al Mukarramah. The discussions that took place amongst the educators of the four established schools at the time provided an opportunity for an exchange of views that helped germinate pertinent reviews of the existing courses in other schools too. The proposed new school's structure and programme will be dealt with as a statement on its own right as the main purpose of this study, justifying it on the principles adopted. At the same time changes affected in other schools' curricula in 1986 will form a second statement showing the degree of acceptance accorded to these ideas in the established schools.

Any comparison has to be based on certain standards that are common to programmes under consideration. A number of classification systems have been developed for the purposes of analysis, each providing its own logic, and all having their own drawbacks. Classification systems are useful in deriving statistical data on the physical attributes of programmes as a basis for comparison. However, analysis should go beyond this and provide a comparison of content of courses as well.

One classification developed by the United States Employment Services is found in their "Dictionary of Occupational Titles". In this classification existing occupations are divided into three categories distinguished by their major functions as

regards the skills needed in each occupation. The division is based on :

- Working with Data: Manipulation of Ideas. (Academic).
- Working with People; Interpersonal Skills. (Counselling, reception).
- Working with Things: (Sculptor, auto mechanics).

Most jobs are considered to consist of different combinations of these three functions and are classified in this dictionary according to the level of skill most required in each area. From this classification the "knowledge and skill" content of each occupation may be categorized into these three major areas. In architecture all three areas seems to be of equal significance to the whole discipline, though some may have the aptitude or desire to excell in one of the areas. In the particular case of Architecture the matter is more complicated than mere division into clear cut areas. The conflict between those who consider architectural education as a specialization and preparation for a professional career and others who look upon this education as one in which the foundations for a life-long liberal education is laid is an ever present point of divergence. The tendency is to reach a compromise between the two views as regards the contents of architectural programmes.

Another specialized group that is always busy with examining the quality of architectural education is the National Architectural Accrediting Board of America. Its latest revision of its earlier "Criterias and Procedures" has six broad areas of evaluation criteria. For example in one of these areas it expects that 20% of programme's total hours must be satisfied with general educa-

tion, liberal arts, and humanities study. In the "achievement-oriented performance criteria" it covers four broad categories:

Context: history, human behaviour, and the environment.

Design: process of an architectural project, including significant design and aesthetic theories, and their relevance to architecture.

Technology: structural systems, environmental control, construction materials and assembly, safety and accessibility.

Practice: the profession's relation to society and the organisation and management of providing professional services. [1]

There are more specific and detailed classification systems developed especially for the discipline of "architecture" on the local level by faculty members in Saudi Arabia. For example, Professor Berkoz in one such study took as his point of departure the views expressed by B. Handler. Handler considered the discipline to consist of a number of systems each having an input, a process, and an output component. These were: The Design System; The Building Construction System; and The Building (Facility) operation system. [2] Berkoz, expands upon it further and adds as the fourth The Environmental Performance System. He thus defines four major fields that would contain the totality of architecture related knowledge. These would be:

- Architectural Design,
- Building Construction,
- Building (or Facility) Operation, and
- Environmental Performance. [2]

There is an interesting and important observation made by Berkoz. He identifies the existence of specific links with other academic disciplines and comes up with a matrix as a model for analysis that can also be used as a category for comparison of various

programmes. However, he does not proceed further to show how it can be done using the matrix. See figure 3.

Professor Rauf Beyru, a colleague of Berkoz at King Saud University, Riyadh, has also delved into architectural curricula and prepared a report in which Saudi Schools were compared according to a system of classification developed by him. The system has a different conceptual framework and probably has a more traditional tint to its structure. He separates the curriculum content into three areas, the central one being the Architectural Courses, which is supported by Basic Courses, and Related Discipline Courses.^[4] Each of the three groups are further divided into sub-groups as seen in figure 4. The major aim of the report was to study the developments taking place in the Architectural Curriculum at King Saud University Riyadh since 1966-68 up to the present. Having done so each of the other three universities were also compared with that of King Saud and a number of conclusions drawn from the comparative strengths or weaknesses of the various groups and sub-groups. His recommendations for the improvement of the architectural programme at King Saud University-Riyadh are brief enough to be quoted here.

Concentrate all studio work on architectural design problems, in which, other environmental design aspects will be given an appropriate consideration;

Organize design studios as central core activity areas;

Establish [studio courses?] offering a meaningful and complementary, but still a flexible sequential order of design problems;

Provide strong and functional relationships between the supporting courses and the studio work, horizontally and vertically.^[5]

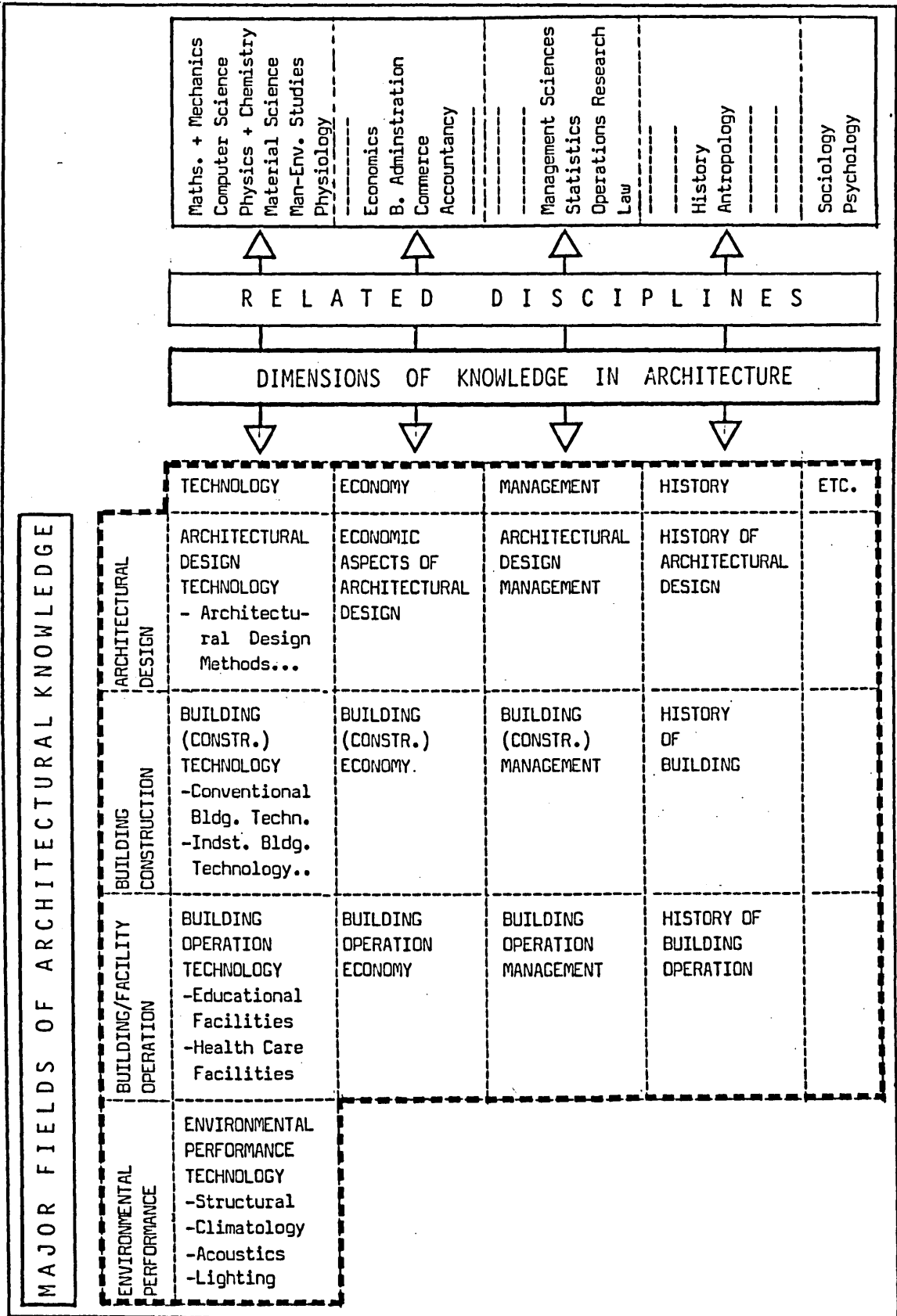


Figure 3. CLASSIFICATION MATRIX FOR ARCHITECTURAL EDUCATION (Berkoz)

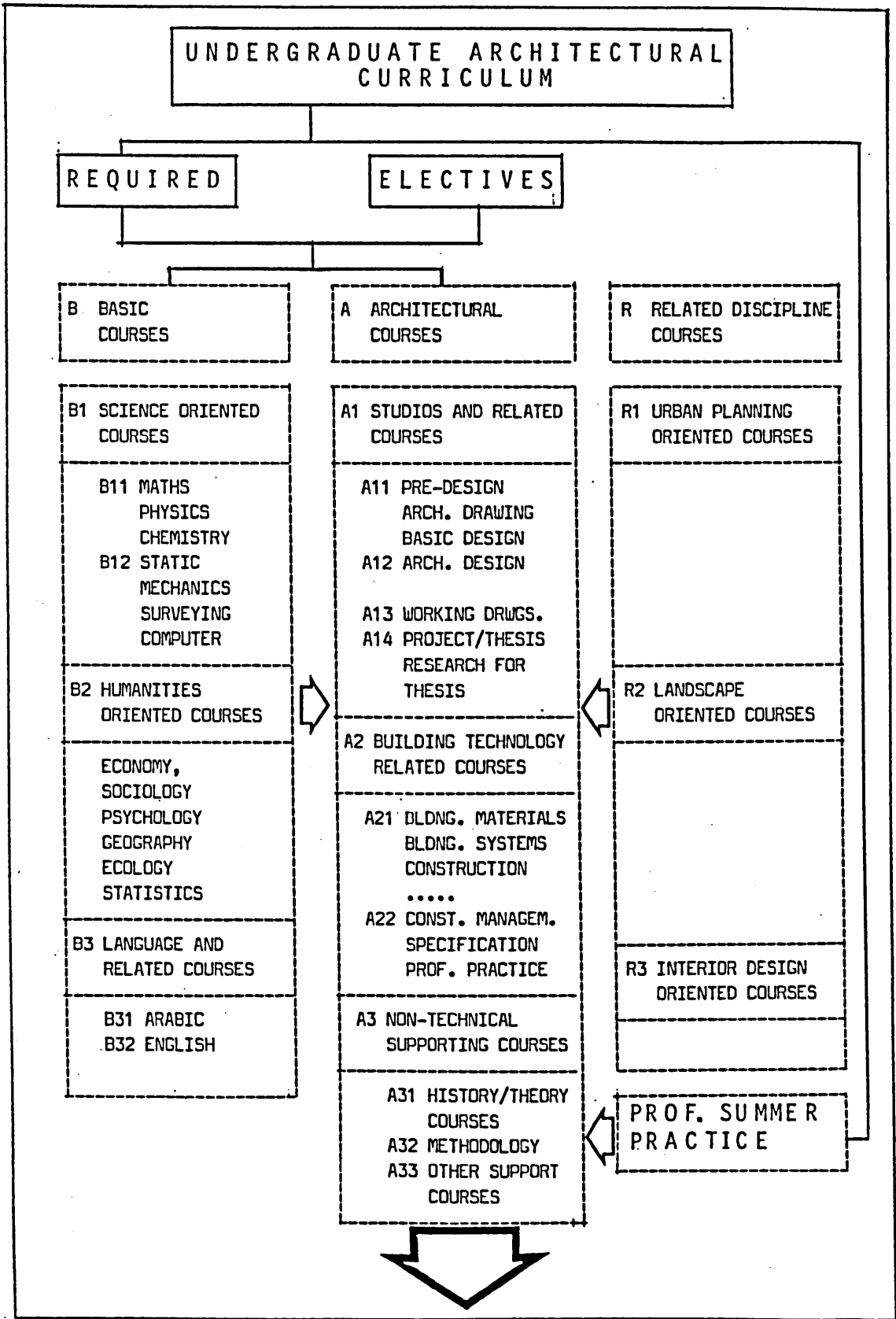


Figure 4. CLASSIFICATION SYSTEM OF ARCHITECTURAL EDUCATION (After Beyru).

Unfortunately there is no indication in the report as to how these recommendations can be realized, except a suggestion being made for the contact hours to be allocated to each of the three groups and their distribution amongst the sub-groups.

For the purposes of the present study a more practical system has been developed in order to serve the comparative goals set for the study of the curricula of schools at one particular point in time. The system was also aimed at providing a continuing framework for comparison to the schools so as to allow its updating and evaluating of transfer students amongst each other in future. The list is supplied as Appendix Two.

It may not be so odd that three categories of the system developed correspond roughly to the Vitruvian triad of Commodity (Humanities), Firmness (Technology), and Delight (Design), for all four schools subjected to study are products of the western tradition which is built squarely on the Vitruvian tradition. The fourth element, (Communication) is of course a very prominent dimension of Twentieth Century life from which no one can escape from, and of greater significance now than it ever was before..

i- CLASSIFICATION SYSTEM

The system adopted will be referred to as the Major Groups System, in reference to its structure. In this system courses that make up the curriculum of a school are divided into four major areas as explained below.

A- COMMUNICATION GROUP

Subjects dealing with 'drawn' as well as 'verbal' and 'written' means of communication in developing and presenting conceptual as well as instructive decisions in the process and practice of environmental design will be put into this group. In addition to the transference of knowledge specific skills are learnt and later articulated in order to maximize the process of communication. It will have three sub-groups within it comprising the Linguistic, Graphic, and Professional Communication concerns as follows:

1.000 COMMUNICATIONS CONCERN

KEY:

0.001 SEQUENCE OF SUCCESSIVE COURSES
0.010 SUB-SUB GROUP
0.100 SUB GROUP

- 1.100 [LANGUAGES--WRITTEN AND ORAL]
- 1.110 ARABIC
- 1.120 ENGLISH

- 1.200 [GRAPHIC COMMUNICATIONS]
- 1.210 BASIC DRAWING TECHNIQUES
- 1.220 FREE HAND DRAWING
- 1.230 PERSPECTIVE DRAWING
- 1.240 ARCHITECTURAL GRAPHICS/PRESENTATION

- 1.300 [PROFESSIONAL SKILLS AND COMMUNICATIONS]
- 1.310 COMPUTERS
- 1.320 WORKING DRAWINGS
- 1.330 SPECIFICATIONS AND QUANTITY SURVEYING
- 1.340 BUILDING INDUSTRY/MANAGEMENT
- 1.350 PROFESSIONAL PRACTICE

- 1.400 [OTHERS]

B- TECHNOLOGY GROUP

Subjects that deal with the nature of materials, their production and their assembly together in single elements, components, individual units or groups of units, will form the content of this group. Naturally there will be theoretical as well as practical

areas of coverage. However basically it is concerned with the transfer of knowledge rather than skills. These can be at a basic/primary level as a foundation course to later subjects, as well as at an advanced level as professional information to be had towards the end of the training of an environmental designer. It will also be divided into sub groups, in this case four.

2.000 TECHNOLOGY CONCERN

KEY:

0.001 SEQUENCE OF SUCCESSIVE COURSES

0.010 SUB-SUB GROUP

0.100 SUB GROUP

2.100 [FOUNDATION SCIENCES]

2.110 MATHEMATICS

2.120 PHYSICS

2.130 CHEMISTRY

2.140 GEOPHYSICS/BIOLOGY

2.200 [STRUCTURES/STATICS/MECHANICS]

2.300 [CONSTRUCTION]

2.310 MATERIALS

2.320 CONSTRUCTION

2.330 SITE WORKS

2.340 WORKSHOP

2.400 [BUILDING SCIENCES]

2.410 BUILDING SCIENCE

2.420 ENVIRONMENTAL CONTROL SYSTEMS

C- HUMANITIES GROUP

Non-technical subjects that deal with ideas and attitudes in an ideological, theoretical or methodological context will be grouped under this heading. In this group only a transfer of knowledge is considered, though some form of expressive skills in manipulating ideas will be part of the course work. Evolution of ideas related to the built-environment with which Man has been actively shaping his environment will form one of the sub-groups of this concern area. These are listed below:

3.000 HUMANITIES CONCERN

KEY:

0.001 SEQUENCE OF SUCCESSIVE COURSES
0.010 SUB-SUB GROUP
0.100 SUB GROUP

- 3.100 [HISTORY]
- 3.110 ARCHITECTURAL HISTORY
- 3.120 ARCHITECTURAL THEORY
- 3.130 LANDSCAPE -URBAN HISTORY
- 3.140 CITY PLANNING HISTORY

- 3.200 [DESIGN THEORY/METHODOLOGY]

- 3.300 [URBAN DESIGN/PLANNING CONCERNS]

- 3.400 [SOCIAL/PSYCHOLOGICAL CONCERNS]

- 3.500 [ISLAMIC SCIENCES]

- 3.600 [ECONOMY]

D- DESIGN STUDIOS GROUP

Courses that actually deal with the actual design activity both in its process and product form will make up this group. Knowledge and skill transference will be constantly taking place in this group. It will be identified as a separate group coming after, and building upon the basic graphic skills identified earlier within the Communications Group. In theory many writers and educators consider the contents of the first three groups as being inputs for the specific use of the processes within this last group. Thus in theoretical terms this particular group becomes the core of the training of an environmental designer and receives a reasonably large portion of his training time. The time factor is much greater than the programmed one consuming students out-of-school time as well either by choice or by need. Whether this happens in actual fact is another issue to be dealt with later. Division of this into sub-groups will be as follows.

4.000 DESIGN STUDIOS

KEY:

0.001 SEQUENCE OF SUCCESSIVE COURSES

0.010 YEAR OF STUDY

0.100 NATURE OF STUDIO

4.100 BASIC DESIGN

4.200 URBAN/LANDSCAPE DESIGN

4.300 ARCHITECTURAL DESIGN

4.400 INTERDISCIPLINARY DESIGN

4.500 GRADUATION PROJECT

ii- METHODOLOGY

Physical parameters as categorized in the scheme outlined above can easily be computed to provide a direct comparison of the credit and contact hour totals of different programmes for the granting of the first professional degree. This will indicate the physical divergence of each programme from each other in terms of time and effort commitment required from the students. The 'key' system also provides an idea about the sequence of courses in series. By associating other codes, such as the semester in which courses are to be taken other data can also be extracted at a glance. These aspects can provide useful information in evaluating transfer students from one programme into others.

The same information divided into constituent groups of subjects will indicate the particular strengths or nature of the programmes reviewed. It will be clear if a programme is more technology oriented or studio centred. However this aspect would need further substantiation by a study of the contents of courses as well, which will not be attempted in this study except in those areas that it will select as its area of major concern.

A further point of interest will be to ascertain and assess the existence, if any, of the degree of interaction between theoretical courses themselves as well as between them and the studios.

Finally, those subjects that are "Islamically" relevant and especially important for this study will be taken up in more depth. The insight thus gained will provide a source of reference when composing the structure and programme for a new institution.

One further use will be made of this general comparative study. It is difficult to modify programmes of existing schools structurally. However periodic reviews do take place and upgrading of the programmes in the light of its application over a number of years becomes possible. Based on these comparisons, and considered opinions developed from them, the programme of one of the existing schools will be taken up for review. In doing so areas that can be structurally modified, or areas that can be modified in content as well as those areas that can be added/subtracted in order to bring a relevant dimension of "Islamicity" to the "architectural" curriculum will be suggested.

iii- GENERAL OBSERVATIONS

The aims and objectives of the Schools were given in the previous chapter. These were extracted from the official catalogues of the Universities. Furthermore, lists of the progression of courses in each programme on which the comparison is based, together with their regrouping according to the Major Groups Classification System are also provided in the appendices as Appendix Three.

These will be the sources on which the observations made below will be based.

A- AIMS AND OBJECTIVES OF SCHOOLS

A number of pertinent statements found in each school's aims and objectives were underlined for attention when presented earlier in Chapter Three but left without comment. These statements will now be considered.

King Saud University in Riyadh defines the "sequence courses in architectural design" as "the core of the program" of the department of architecture, a reasonable and a matter-of-fact statement to be made and applicable probably to all programmes.

It also qualifies the goal of the Department of architecture as embracing "new advances and discoveries for the betterment of today's Saudi physical environment, with a conscious concern for the cultural values that the environment represents". The awareness of a 'cultural value' representation of the environment is an important element if purposefully substantiated in the body of courses and guided intelligently towards a defined end.

King Faisal University in Dammam speaks in general terms about the structure of its programme. It identifies one of the objectives of the College of Architecture and Planning as being, the "student's development in understanding and identifying with Islamic values and traditions". One would therefore expect that these values and traditions will somehow be substantially present in the curriculum. Later on it qualifies the nature of the teach-

ing of the courses as being done "in the context of the developed technology of the Western world. However, considerable emphasis is placed upon the special characteristics of life in the Arab World." This seems a hollow statement that is contradictory in itself and open to a variety of interpretations. How can the special characteristics of life in the Arab world be emphasized in the context of the developed technology of the western world. They do not receive any qualification nor are they given substance in the detailed courses.

King Abdulaziz University in Jeddah gives more verbal support to similar ideals (of commitment to contemporary values/technology and Islamic traditions), as in the following sentence. "...solutions to problems (based on commonly understood humanistic principles) are sought within the context of the climate...and the rich Islamic and Arab traditions in design and land use." The graduates from the department of Architecture "will contribute to the creation of an environment...of high spiritual aspirations that will reach the foundations of the Islamic tradition, and contribute to its rebirth and its expression through impeccably contemporary media". What is meant by the phrase 'commonly understood humanistic principles' is probably left to the interpretation of the serving academic faculty. The stress on the 'impeccably contemporary media' is no less baffling when specifically meant to 'reach the foundations of Islamic tradition'. It also refers to the art of designing which requires (in addition to other things) "sensitivity and imagination in the re-discovery and creative adjustment of age-old methods and processes." And finally, "Throughout the program, attention is given to Islamic

and Arabic traditions and culture and their appropriate consideration in design."

Similar to King Saud University, The University of Petroleum and Minerals in Dhahran also identifies the studios as its major concern. "The major emphasis of Architecture program is design studio experience...This studio experience is supported by parallel studies of design history and theory..."

On the socio-cultural level the sentiments expressed by the University of Petroleum and Minerals are as follows. "Although emphasis is placed on developing design skills... the socio-cultural factors of design are also stressed; attention is given, throughout the program, to Islamic and Arabic traditions and culture, and to their appropriate consideration in design". These are also very specific goals, but never identified and expanded upon in detailed course contents.

Though using Catalogue statements to analyse the aims and objectives of an institution may look superficial, it does provide an insight into the degree of clear thinking that has been put into a programme by ascertaining the relevance of the courses and course contents to the stated ideals.

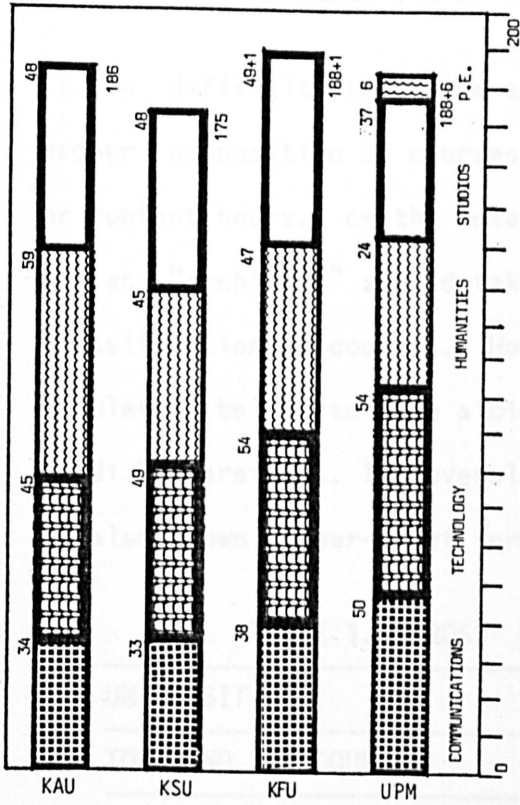
For example, of the two schools that identify Design Studios as the main core of their programme, King Saud University and the University of Petroleum and Minerals-Dhahran, Dhahran allocates less credit or contact hours to its studios than all other schools, 32% of its contact hours. Only King Saud University-

Riyadh is true to its stated claim to a degree, allocating 38% of its contact hours, though this is much lower than the 42% of King Faisal University-Dammam.. (See Charts 1 and 2)

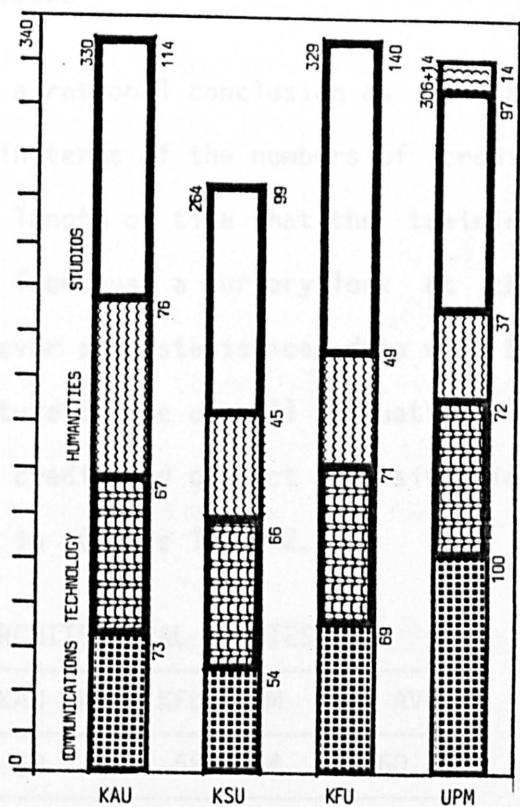
The statement by King Abdulaziz University that "realization of the built environment requires sensitivity and imagination in the re-discovery and creative adjustment of age-old methods and processes". is lived up to only by giving prime time and credit to history based courses as will be seen later when the Humanities Group is considered. These courses are, however, mostly descriptive and ignore the methods as well as processes of the "old" in their relevance to the "new".

As it can be observed from the selected quotations Islamic concerns are clearly visible as aims and objectives. In the programmes these concerns are embodied within two groups of subjects. The first one is a group of four courses in sequence which are compulsory courses in all Saudi Universities. These are more theoretical/theological courses, the contents of which have been covered before in secondary education. Though relevant in their own right, they do not have any linkages with or concern for the 'technical' courses/the built-environment per se.

The second group composes the "Islamic" adjectived courses, which does not rely or relate to the specific ordinances of Islam. They only concern themselves with the traditional, vernacular, historic, and other elements of design vocabulary. Beyond these no significant structural or programmatic precautions are taken to integrate the ideals of Islam in the totality of the courses.

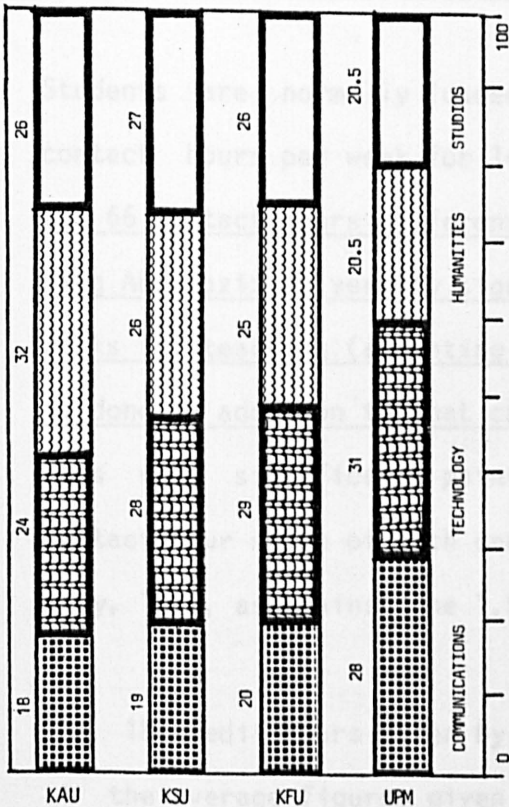


a- Credit Hour Distribution

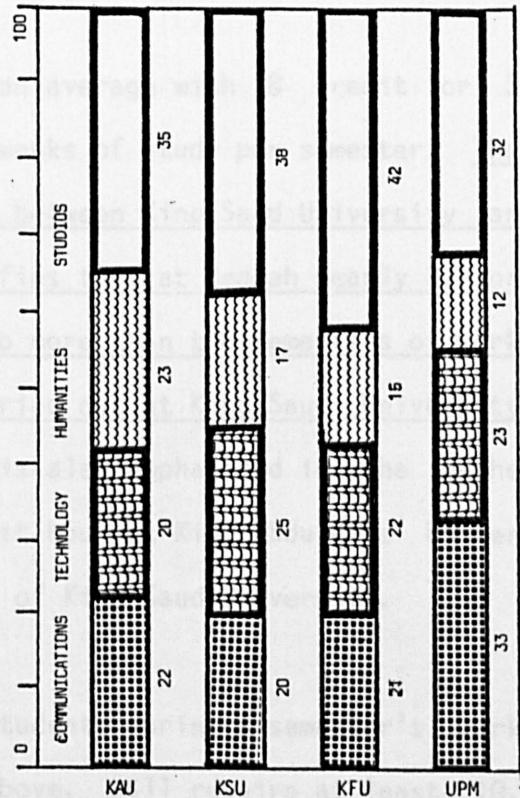


b- Contact Hour Distribution

CHART 1. DISTRIBUTION OF CREDIT AND CONTACT HOURS INTO MAJOR GROUPS IN ARCHITECTURE COURSES



a- Credit Hour Distribution



b- Contact Hour Distribution

CHART 2. PERCENTAGE DISTRIBUTION OF HOURS INTO MAJOR GROUPS IN ARCHITECTURE COURSES

B- LENGTH AND WEIGHTING OF STUDIES

It is difficult to arrive at a rational conclusion as to the proper composition of courses in terms of the numbers of credit or contact hours, or the total length of time that the training of an "architect" should take from just a cursory look at the classification of courses. However some statistical data will be tabulated below to give a picture of the overall situation at Saudi Universities. The overall credit and contact hour situation is also shown in bar-chart form in Charts 1 and 2.

TABLE 1. "GROSS" ARCHITECTURAL STUDIES

UNIVERSITIES	KAU	KSU	KFU	UPM	AVG.
TOTAL NO. OF COURSES	58	61	58	64	60.25
TOTAL CREDIT HOURS (CR)	186	175	189	184	183.50
TOTAL CONTACT HOURS (CH)	330	264	329	318	310.30
AVERAGE OF CH/CR.	1.77	1.51	1.74	1.73	1.69

Students are normally loaded on average with 18 credit or 30 contact hours per week for 14 weeks of study per semester. Thus the 66 contact hours difference between King Saud University and King Abdulaziz University signifies that at Jeddah nearly 31 more weeks of teaching (amounting to more than two semesters of work) is done in addition to that carried out at King Saud University. This very significant point is also emphasized in the higher contact hour value of each credit hour at King Abdulaziz University, 1.77, as against the 1.51 of King Saud University.

The 18 credit hours taken by students during a semester's work, at the average figures given above, will require at least 10.2

semesters of study. It is impossible for an average student to complete his studies before five and a half years, unless summer schools are used to clear away some of the course work. The University of Petroleum and Minerals, has such a structure with two summer schools in-built into its five years course of study. King Abdulaziz University has a six year programme whilst the other two schools keep a five year course of study. It is impossible to keep to 5 years at King Faisal University with the number of credit or contact hours required by its programme.

It is significant that King Faisal University, in its 1986 revision of its courses, proposed to decrease its credit hours from the highest figure of 189 to lower than the lowest, to that of 162. Similarly contact hours slipped from 329 to 258.

Linguistic communication, especially in English, as this is the medium of teaching at the Saudi Universities, is an important element and can be considered as a separate entity on its own. Physical Education is also unusual in not being a common concern in all schools. If these two sub-groups which provide an unfair lopsidedness to the comparison are subtracted from the total, a different table will emerge as will be seen below.

TABLE 2. "P.E. AND LANGUAGE-FREE" STUDIES

UNIVERSITIES	KAU	KSU	KFU	UPM	AVG.
TOTAL NO. OF COURSES	55	56	54	50	53.75
TOTAL CREDIT HOURS (CR)	174	164	179	149	166.50
TOTAL CONTACT HOURS (CH)	295	248	286	219	262.00
AVERAGE OF CH/CR.	1.7	1.5	1.6	1.5	1.58

King Faisal University and King Abdulaziz University now top the table in credit hours and contact hours, as well as in the time value of each credit hour of teaching. The quality of teaching and its effectiveness by being understood and assimilated more because of a higher earlier dose of linguistic study, may be a valid contention of University of Petroleum and Minerals.

If we further subtract the graphic communication group together with the basic science group of subjects from the table, maintaining that these are also basic prerequisites to enable a proper "architectural" training to be built upon, a different picture emerges, as seen in the table below.

TABLE 3. "NET" ARCHITECTURAL STUDIES

UNIVERSITIES	KAU	KSU	KFU	UPM	AVG.
TOTAL NO. OF COURSES	44	43	49	39	43.75
TOTAL CREDIT HOURS (CR)	141	145	163	113	140.50
TOTAL CONTACT HOURS (CH)	237	215	267	163	220.50
AVERAGE OF CH/CR.	1.7	1.5	1.6	1.4	1.55

It should be pointed out that a number of graphic and basic science courses may be considered to be advanced areas of study, only to be attempted, after having obtained more "architectural" knowledge.

Maintaining the average weekly programme of 18 Credit Hours, a period of just under 8 semesters emerges as minimum to carry out a purely architectural course in addition to the time required to obtain other basic or foundation skills and knowledge.

C- COMMUNICATION GROUP

In the area of Communication, the University of Petroleum and Minerals is the most committed (see chart no. 3). This is seen both in overall credit and contact hour percentages allocated to the group in its programme. To be more particular the strength is specifically in linguistic communications. 55% of the contact hours assigned to the group compared with 29.5% at King Saud University and 58% of the credit hours assigned to the group compared with 11% at King Saud University is enough proof of this commitment. A substantial section on physical education which has been left out of evaluation, is an added dimension of the University of Petroleum and Minerals' programme.

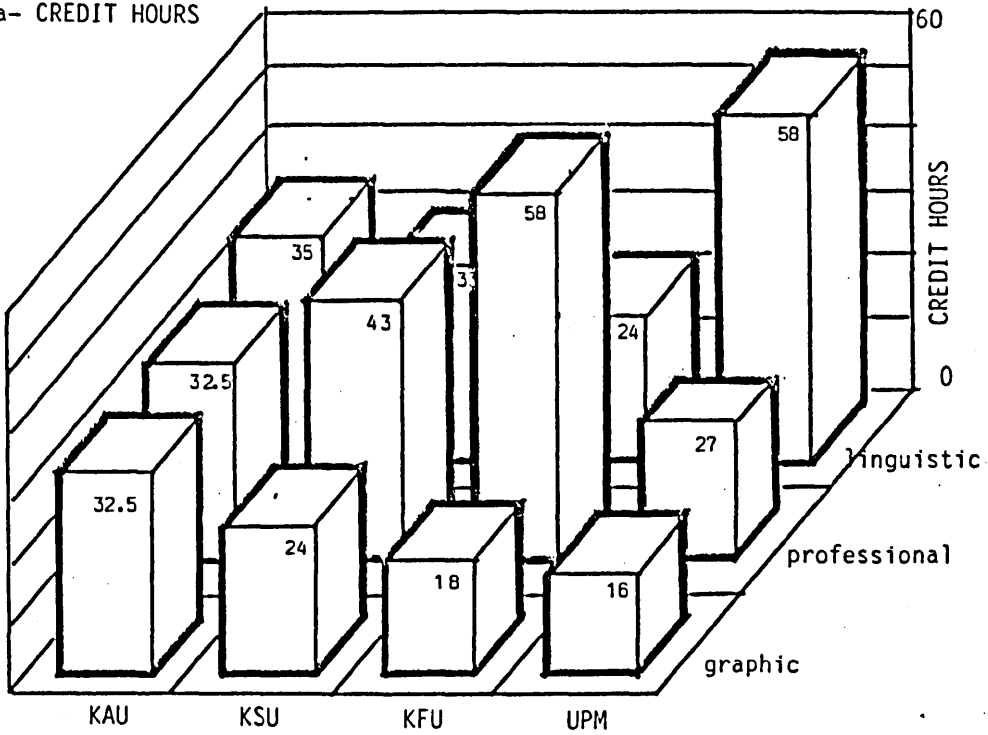
King Faisal University has the edge in professional communication area both in credit and contact hour percentages. However; this strength is not maintained in the graphic communication area accounting only for 10 % of the contact hours. This should be compared with the 31.5% of King Abdulaziz University.

The proper balance between linguistic, graphic and professional communication sub-groups is a matter to be considered seriously in developing a programme.

D- TECHNOLOGY GROUP

In the Technology group King Faisal University and the University of Petroleum and Minerals share a mixed lead over the other two schools, although differences between the four schools are not significantly large (see bar chart No. 4). King Faisal University

a- CREDIT HOURS



b- CONTACT HOURS

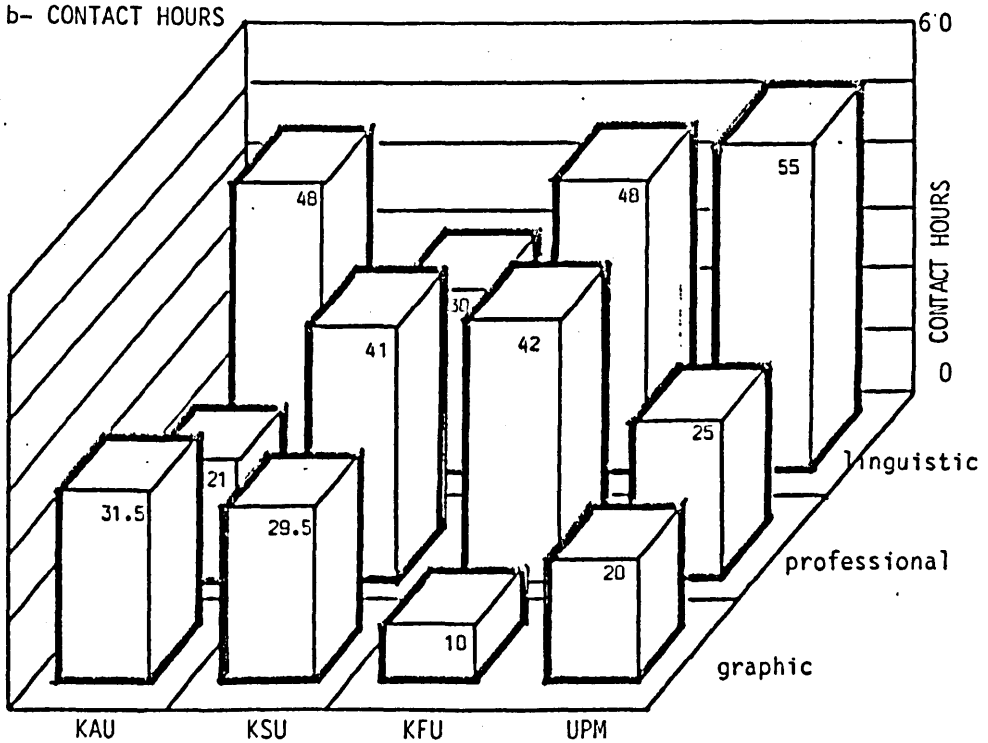
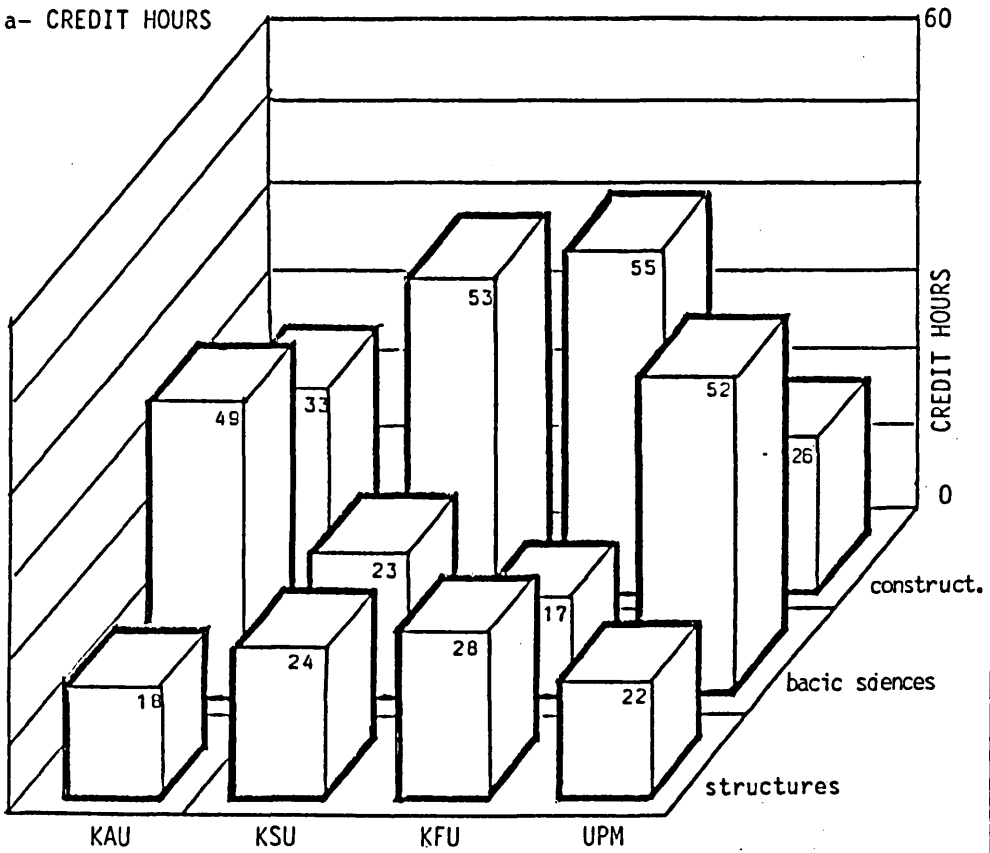


CHART 3. PERCENTAGE CREDIT AND CONTACT HOUR DISTRIBUTION TO SUB-GROUPS IN COMMUNICATIONS MAJOR GROUP.

a- CREDIT HOURS



b- CONTACT HOURS

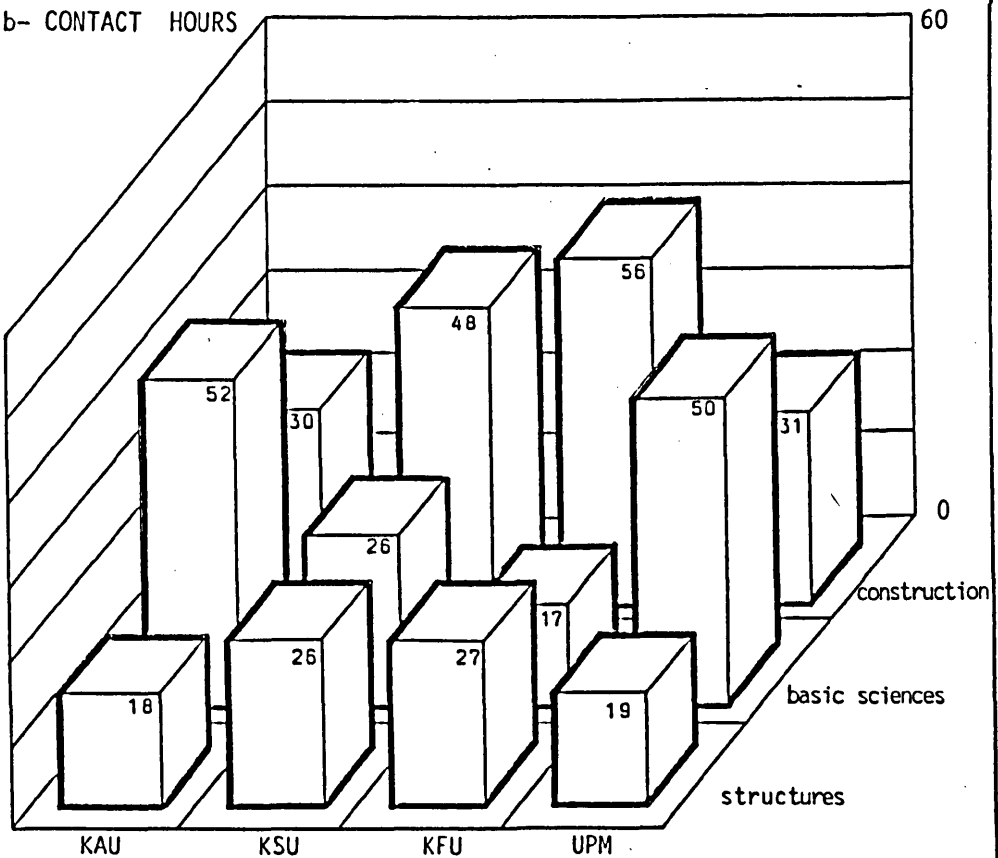


CHART 4. PERCENTAGE CREDIT AND CONTACT HOURS DISTRIBUTION TO SUB-GROUPS IN TECHNOLOGY MAJOR GROUP

gives predominance to Construction related courses with 55% of the credit hours, assigning only 17% of the credit hours to basic sciences. The University of Petroleum and Minerals on the other hand emphasizes Basic Science courses with 52% of the credit hours at the expense of construction courses that are allocated 26% of the credit hours.

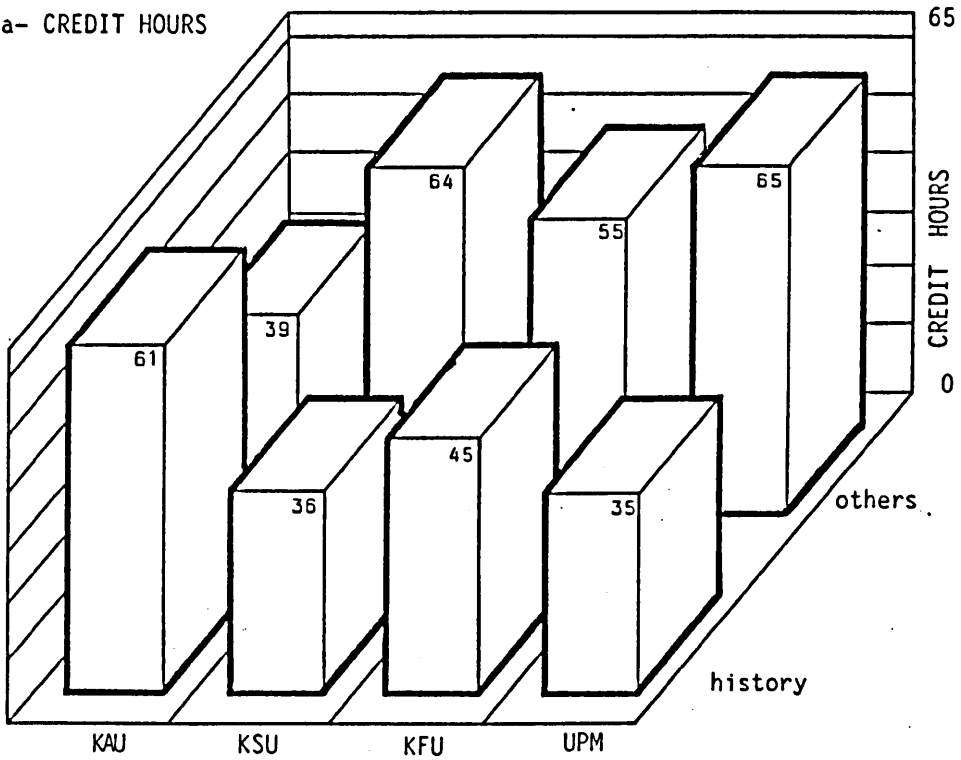
Incidentally, this is similar to that seen in the case of King Abdulaziz University - Jeddah, though it is more balanced in the case of Jeddah. In 'Structures' both King Saud University and King Faisal University have an edge over the others.

E- HUMANITIES GROUP

In the Humanities Group of subjects King Abdulaziz University has a distinct lead over other schools with 32% of the credit hours compared to the 20% of University of Petroleum and Minerals (see bar chart No. 5). This is so in spite of having been conceived within a College of Engineering. It reflects also a particularly enlightened outlook amongst the College administrators who established a special service department, the department of the Socio-Technical Studies, in order to provide liberal studies to engineering students. History related courses make up 61% of the group credit hours, nearly double that of King Saud University and the University of Petroleum and Minerals.

There is parity of contact hours in non-historical courses amongst different schools when considered in actual hours rather than percentages of the group total (28, 29, 28, 24, for Universities in Jeddah, Riyadh, Dammam and Dhahran respectively).

a- CREDIT HOURS



b- CONTACT HOURS

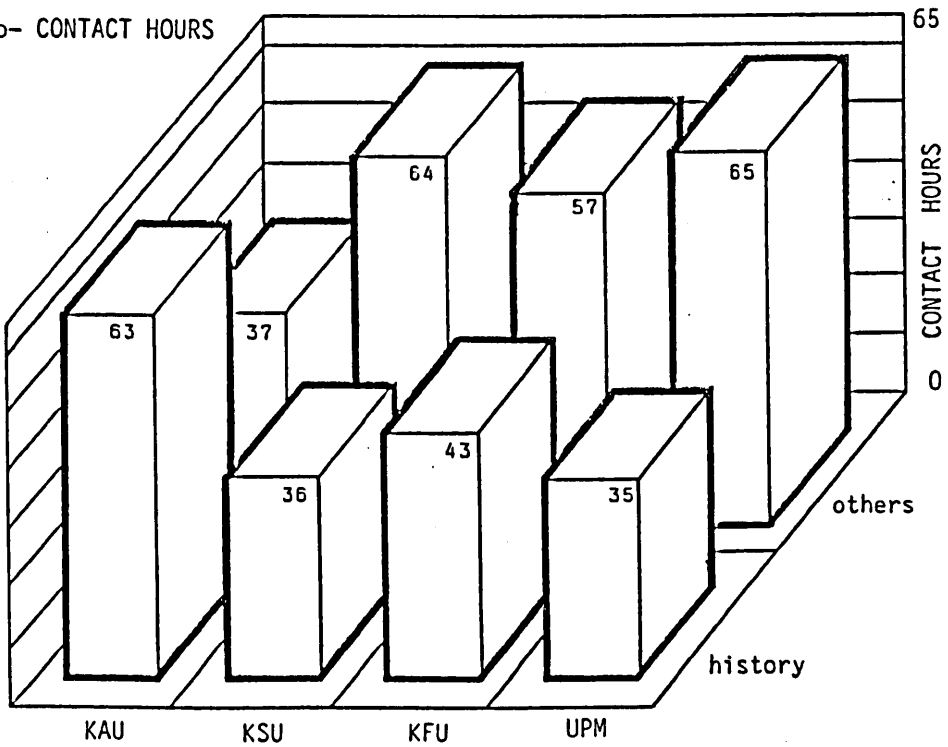
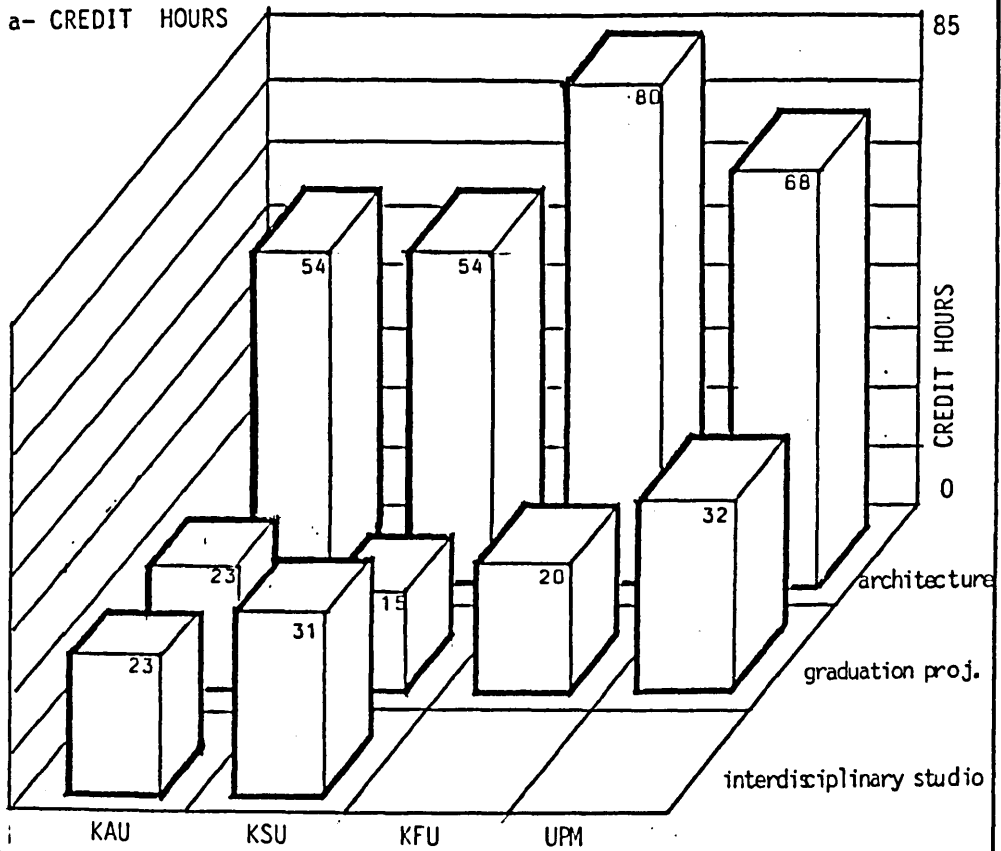


CHART 5. PERCENTAGE CREDIT AND CONTACT HOUR DISTRIBUTION TO SUB-GROUPS IN HUMANITIES MAJOR GROUP

a- CREDIT HOURS



b- CONTACT HOURS

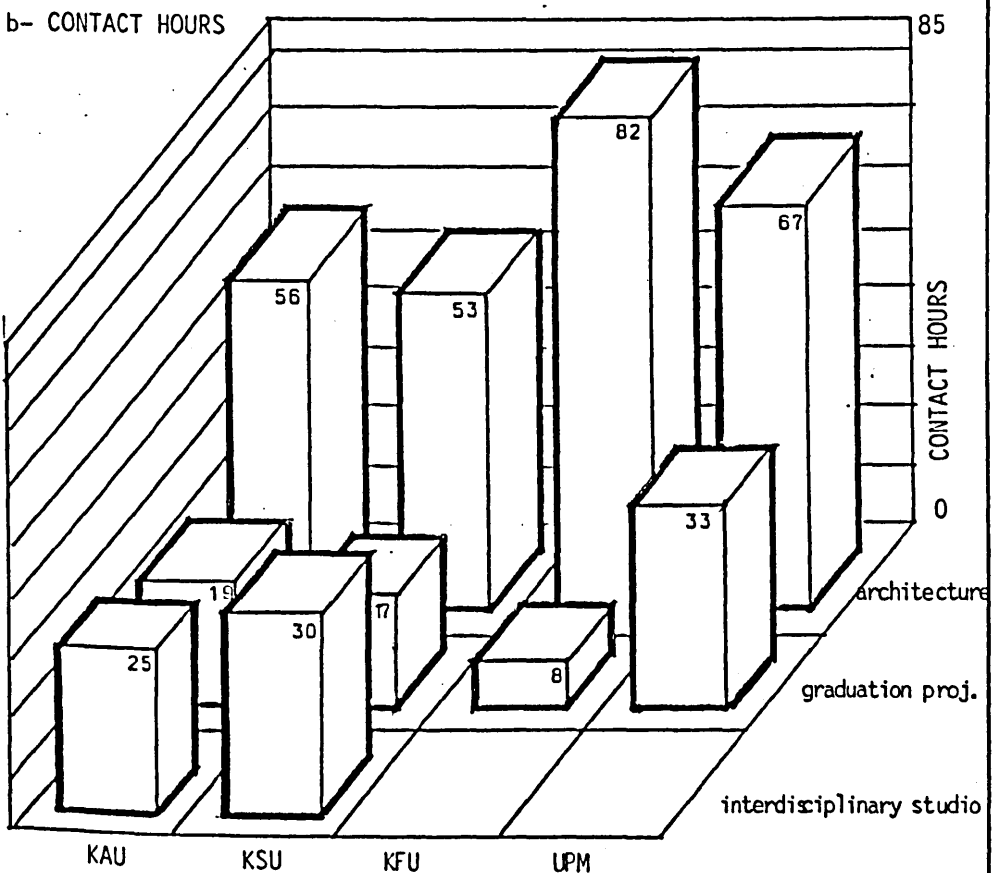


CHART 6. PERCENTAGE CREDIT AND CONTACT HOUR DISTRIBUTION TO SUB-GROUPS IN STUDIOS MAJOR GROUP

F- STUDIOS GROUP

In the fourth Group, that of the Studios, King Faisal University has the lead in percentages of contact hours allocated to the group as well as actual hours committed (see bar chart no. 6). This should more than compensate for its deficiency in Graphic Communication. There may be some discrepancy here in assigning a graphics role or an architectural design studio role to various courses.

There is, however, content variations that should not be overlooked or ignored by giving credence to the physical data. King Saud University offers three non architectural but environmental design related studios during its studio progressions totalling 15 credit hours. King Abdulaziz University also has similar courses that can be defined as being "interdisciplinary" adding up to 11 credit hours. King Abdulaziz University also implements its first three year Core programme where all drafting as well as basic design and elementary design are done together by all students who enrol in its programmes. Architectural studios per se, are implemented in the last three years the penultimate one being run together with the other two departments under the title of Inter-disciplinary studio.

It is clear that though a degree of affinity in content of technical courses prevail amongst all schools, Studios do not seem to have such conformity. In addition to the studio courses providing major differences amongst the schools, the divergence of the background of the Studio tutors should also be mentioned as a factor emphasizing this difference.

iv- DETAILED OBSERVATIONS

Only those group of courses that directly relate to the issues raised in earlier sections of this study will be taken up for detailed comment. The aim here is to clarify those important elements that should play a decisive role in the development of the new programme.

The groups considered relevant are:

- Islamic Studies Group of subjects;
- Psychology and Sociology in Design;
- History oriented subjects in General and History of Islamic Architecture in particular;
- Studios.

A- ISLAMIC CULTURE/STUDIES COURSES

Abstracts of these courses for the four schools are given as Appendix Four - A. The main point of criticism has already been made whilst dealing with General Observations earlier. It is important to emphasize that there is a great amount of scope for relating these courses to other courses in the programmes. Psychology and Sociology courses is one immediate area of relevance where these courses should be directly related. History and Design courses are other relevant areas. However, the detailed developments of the links and references is a matter for pedagogic and academic study that require specialist input.

It is possible to revise these courses so as to identify those

elements that are basic to the system of belief, which has to be taught at the beginning of the programme, and those that have direct and prescriptive relevance to the shaping of the built environment which should be given at appropriate points.

B- PSYCHOLOGY AND SOCIOLOGY IN DESIGN

Course abstracts of subjects dealing with social and psychological concerns in different schools are given as Appendix Four - B. Concerns in the field of Psychology and Sociology as an element of significance in design has its opponents as well as proponents. Having become fashionable during the 1960s, non-architect sociologists dominated the courses that somehow deflected the issue and the subject received adverse reaction, eclipsing the original enthusiasm. Only one school specifically addresses the psychological dimension, the School of Environmental Design at King Abdulaziz University. However, as it stands it has no significant response or relevance to the psychological, sociological reality of the Saudi scene.

C- HISTORY ORIENTED SUBJECTS

Course abstracts for these subjects are provided as Appendix Four - C. In the categorization of courses there exists an unavoidable confusion as to what is specifically "History" and what is "Theory". However one tries, an overlap seems unavoidable. Because of this fact they have been presented here as one group. History courses seem to have by tradition no significance to Design Studios or technical inputs. An indirect influence in a formalistic, stylistic sense can be assumed from later courses

where Modern Architecture is studied. Such influences would more likely be due to students being exposed to the fashion generating products of socially successful architects in the pages of the glossy periodicals rather than to specific intentions.

One other question that arises in a review of these course abstracts is in relation to any need or value in the compartmentalized nature of these history courses as individual units on their own, having distinct divisions in two dimensions. One major division is by disciplines such as History of Art, Architecture, Landscape Architecture, Town Planning or Urban Design. Another major division is by stylistic or chronologic progression within each course such as Early Christian, Late Gothic, Renaissance, and so on. This question becomes even more pronounced in those schools where by choice an all inclusive generic term such as "Environmental Design" is adopted to emphasize the interdependence of the disciplines.

Even a cursory observation will show that there exists a valid case to re-think the history courses so as to bring into vision the totality of the environment as an interrelated built entity rather than specialized independent disciplines in an otherwise hostile or irrelevant field with no reference to each other.

The complicated question of "The History of Islamic Architecture" is a more substantial topic to tackle. Amongst the courses offered, those at King Faisal University have an indication of the concerns posed in this study but lacks identification and projection as matters of importance. The course (KFU82) ARCH 352 HISTO-

RY AND THEORY III, speaks of the "genesis of Islamic Buildings and Settlements as manifestations of a comprehensive and cohesive life style". It further strengthens this observation by pointing in the course (KFU82) ARCH 402 HISTORY AND THEORY IV, to the "problems of modern Islamic Style versus the genuine essence of Islamic architecture and Cities".

The University of Petroleum and Minerals takes up the issue in its world relevance. In course (UPM82) ARC 111 - HISTORY OF ARCHITECTURE , it introduces the student to "...Islamic architecture in the context of world architecture" and in the course (UPM82)ARC 212 - HISTORY OF ARCHITECTURAL THEORY, it takes up "...An examination of Islamic architecture as seen in the context of the modern movement."

King Saud University maintains a very clear traditional attitude. In course (KSU82)ARCH 204 - HISTORY OF ARCHITECTURE 2, by only referring to "environmental influences and factors" it adjudges these as major considerations in the "birth, development and maturity and decline of Islamic architecture." It further divides the field into an "Early Period", a "Middle Period", and a "Late Period." The logic of this division again points to an external concept of architectural history rather than one relevant to the region or the land.

In order to become more familiar with the concern area, the course outlines of the subjects taught have to be studied. King Abdulaziz University has the only programme where "History of Islamic Architecture" is a mandatory course. Other schools, as

well as King Abdulaziz University - Jeddah, includes something of this in their general History of Art/Architecture series, albeit in a diluted form. The course outline of (KAU82) HISTORY OF ISLAMIC ARCHITECTURE is given as Appendix 4A. Because of their relevance as well as for comparison, two more course outlines from an American University are provided as Appendix 5B and 5C. These are "Modern Architecture" and "Art of Islam " Courses of John D. Hoag given in the spring of 1978 at University of Colorado at Boulder. Their importance lies in their being typical of American courses used as a basis for Saudi programmes. (See Appendix Five)

There is no difference of principle, method, or structure in these three courses. All three are object (building or author) oriented, descriptive, and chronologically composed. The emphatically descriptive nature and stylistic insistence are also very clear from the term-paper requirements for the "Modern Architecture" course, and from the suggested topics for the "Art of Islam" course of J. D. Hoag. What is more noteworthy is the questionable classification of "Classic", "Late Classic" and "Post Classic" attributes attached to Islamic Art...It is another clear evidence of applying methodologies and terminologies developed for one cultural discipline area to that of another without any worry or concern as to its terminological relevance.

An earlier statement as to the western origin of the term "Islamic Art/Architecture" and the interest generated in it in the West, is clearly corroborated by the bibliography appended to the "Art of Islam" course. Of the twenty two sources listed only

two emanate from native authors. This has various implications. Either no scholarship worthy of consideration exists in Muslim lands on Islamic topics, or there is no interest or awareness in Muslim lands as regards their Art/Architecture.

D- STUDIOS

Course abstracts of studio courses of different schools are appended as texts in Appendix Four - D. Here again a very distinct variety of attitudes and complexity in use of terminology is exhibited. Every possible way of dealing with such an important area of architectural education is covered in between the rounded generalized universal statements of King Abdulaziz University -Jeddah, and the distinctly prescriptive statements of King Saud University - Riyadh.

Accepting that due to the more intimate nature of individual drawing board criticism, a lot of personalized teaching goes into the studio courses by tutors assigned to these, there still remains a need to define a structure within which a foreign non-tenured multi-national teaching faculty can function. Otherwise disjointed inputs may hamper and delay the acquisition of relevant and composite design attitudes. The desirable opportunity of being exposed to other designers' views as a means of increasing the perspective of students in design studios is an aspect to bear in mind. However, the same possibility will still exist within a defined process or procedure that identifies sequential and content links of studios between each other and other subjects.

At present no such structure seems to exist. Most studios are looked upon as independent design activities that basically keep the student glued to his drawing board.

v- CONCLUSION

It is evident that none of the four schools have a clearly thought out aims and objectives that would provide the framework for, and be reflected in, the detailed programmes. There exhudes a desire, as phrased in these aims and objectives, to achieve the best of both worlds (at least verbally): the modern western garb of coat and tails, and the native touch in the carnation put through the button hole. The result fails to achieve either. However a cautionary statement has to be introduced here. Many a graduate from these schools has managed to get placed in the most prestigious institutions of the west and obtained post graduate degrees with flying colours. They are now trickling back to staff these same schools. [6]

The courses are widely divergent in time and credit weighting, which indicates varying standards in the concept of the product or wasteful effort in the process. A difference of as much as two semesters in teaching time is not a matter to be brushed aside as minor detail. Graduates from all schools are privileged to practice their profession immediately on graduation with the same title, at the same grade of salary. The length of study should be based on more rational considerations, having reference to the attributes of the final product, if it can also be evaluated.

The same applies to the time allocation to groups of subjects. Unless specialization in a particular group is the final aim, one would expect the schools to seek a more uniform approach and agree upon the broad knowledge base needed. Notice this non-uniformity and vast divergence in the "linguistics" as well as "humanities".

The Studio group is not at all satisfactory either. For the purpose of this study unfortunately no benefit seem to have accrued from its study for the new schools proposal except in a negative sense - showing what not to do. This particular concern area, in view of the criticism that western circles are also directing towards it, advances itself as a candidate for major attention in the new programme.

NOTES ON CHAPTER FOUR

- 1 For a short appraisal of the "Criteria and Procedures" see :
John M. Maudlin Jeronimo and Peter Hoffman, 'Architectural Education: Architectural Criteria Revive Some Standards, Tighten Others', Architectural Record, (January 1987), p. 33.
- 2 B. Handler, Systems Approach to Architecture, (New York: American Elsevier Publication Co. Inc., 1970), pp. 27-50.
- 3 Sina Berkoz, 'A Model for Systematization of Teaching and Research Areas in Architecture', unpublished paper presented at the First Saudi Engineers Conference, held at King Abdulaziz University - Jeddah on Shaban 1403/May 1983.
- 4 Rauf Beyru, 'Analytical Comparison of Architectural Education at the Saudi Arabian Universities', unpublished report presented to the Fourth Bi-annual Meeting of the Schools of Environmental Design Professions in Saudi Arabia at Dammam, on April 1984.
- 5 Ibid.
- 6 It would be an interesting study (sociologically as well as architecturally) to look into this colossal postgraduate campaign reviewing the outcome as represented by the theses produced (topic and contents wise).

As an indication of what one may find, a quote from one such thesis can be included here.

...When I came to MIT in the fall of 1978, I had little knowledge about Architecture. I was fortunate to work with Professor N. John Habraken for six years. Our meetings and discussions produced this study. His encouragement and guidance were invaluable. He is my only teacher... (underlines added by me)

Without diminishing the commendable value of respect shown by a student to his mentor and the appreciation of the knowledge that may have been exposed into his conscious world through this association, one feels sorry for the poor forgotten teachers of the undergraduate days who actually shaped him in his local university as a receptacle for the later work. Let us face it, without their patient preparation of the ground surface during the undergraduate days the last (only) teacher would have been really taxed to have given the finishing coats of polish.

CHAPTER FIVE:

"ISLAMIC ART/ARCHITECTURE" IN WESTERN LITERATURE

Religion is the most important constituent of man's humanity...It includes the vision of reality and the articulation of that vision... acquiescence in the commanding nature of Ultimate Reality and actualization of its commandments...in all of a person's actions as it relates to himself, to other humans, and to nature...

In a sense, all the humanities, including the comparative ones [anthropology, sociology, psychology, and politico-economics], are her [religions'] front-line soldiers whose duties are the collection of data, and their analysis, systematization, and reconstruction into meaning-wholes. The subject matter of these disciplines is men's ideas and actions in all fields of of human endeavor; and all these are, as we have seen, constituents of the religio-cultural wholes which the science of religions proper studies as wholes, and compares, and relates to man and God in the attempt to reach the truth of both. ...Religion, then, is not a course of study; it is, rather, by itself a college of liberal arts, each department of which is organically related to the centre, whose job is to make sense out of the infinite diversity of the religio-cultural experience, and thus contribute to the reconstruction of man's knowledge of himself, to his rehabilitation in an apparently alien cosmos, to his realization of value. ...

Isma'īl al Fārūqī, in 'Meta-Religion: Towards a Critical World Ideology', American Journal of Islamic Sciences, Vol. 3 No.1 (September 1986).

Though a considerable number of books, periodicals, papers, articles are accumulating on subjects related to the art, architecture, urbanism and related environmental aspects of the Muslim World, they mostly deal with descriptive accounts of the elements within the built environment, be they buildings or individual pieces of applied, visual or craft arts. Those that take up the subject in its entirety so as to generate a body of theoretical knowledge as a basis for, or as a definition of what constitutes "Islamic Architecture" are very rare indeed.

In order to establish the present stage of the scholarship on the topic a review of selected works that appeared during the course of the last fifty years will be attempted here. The aim of the review will be to identify "dead ends" as well as possible avenues that may help the development of a theory. However the coverage cannot be comprehensive as this is beyond the scope of the present study.

i- "A STYLISTIC ANALYSIS OF ISLAMIC ART"

The earliest serious effort at a methodological analysis of Islamic Art as a "style" during the modern period was attempted by Ernst Diez. In a two part paper that he wrote in 1936 and 1938 under the title of "A Stylistic Analysis of Islamic Art" [1] Diez adopts the "universal-genetic" methodology of Ludwig Coellen which was specifically developed and applied to European art. [2] By applying a method developed specially for use in a European context to matters within the world of Islam, the first irreparable distortion would automatically be in-built into the effort. This would rob it of any relevant theoretical insight. A wrong approach at the outset will tend to magnify any faults that may afflict the conclusion as well. However a number of interesting conceptual stands are recorded in the study that strike a sympathetic resonance with various aspects of the present work. Because of this, as well as for showing how a theory is generated in western thought, the papers have been given an attention not proportionate to their physical size in comparison to later works. To illustrate the first point, Diez accepts and explains Coellen's conceptual understanding of "style" as a philosophical

term concerned with "time and space" form. Coellen (and of course Diez) maintain that as "style" is associated with a creative act it cannot be established by methods of aesthetics but by those of ethics. Thus the Theory of Art belongs to the realm of philosophy and its principles must be founded on transcendental logic. What will be surprising is the failure to reflect these observations in the conclusions.

Expanding further on the conceptual content of the term itself Coellen associates the particular value of the creative art with its quality of perception. However, the creative act is the act of cosmic perception. In creative perception existence (the natural physical existence visually perceived at that particular time and space as a "consequence") is put into relationship with its origin (the source of its creation, the "cause"). Thus art, according to the authors, is on an equal footing with the other provinces of ethics, religion and philosophy. They too, relate the finite to the infinite, that is, existence to its cause or origin. Coellen always makes philosophy and religion the points of departure in his discussions and maintains that the life-conception and the style of a period correspond to each as "condition" and "conditioned". Thus, [according to Coellen] stylistic form has a definite meaning; it is the physical equivalent of the life conception to which it belongs.

Diez identifies in Coellen four elementary possibilities of the genesis of space which are summarized below. These 'levels' also correspond to the historical development of human history.^[3]

- The creation of the plane brings about the ornament, the

lowest genus of form. Here the plane is the totalitarian space. Formation of the plane through ornament is first attempted by primitive hunting tribes of the old stone age. To this level also corresponds the simplest possible conception of life: the absolute identity of existence and its metaphysical basis.

- The creation of the individual space produces sculpture, the second genus of form. Here the space is limited to the space enclosing the individual object, i.e., the human figure. Formation of single space by means of plastic single figures which are not yet in a standing position, i.e., are not yet tectonised, such as the paleolithic sculpture. This level corresponds to a conception of life in which the idea of the individual becomes important in the comprehending of existence.

- The creation of the limited partial space gives rise to architecture in the broadest sense of the word, that is inclusive of pure tectonics. The evolutionary stage was taken in the polytheistic phases of human culture. (These first three types of space are considered by Coellen as being of prehistoric origin and that the Greek culture enters into the light of history in this third level of space). The cosmological conception in this level rises above the limitation to the single individual of the previous level, and encompass a complex of individuals, being conceived as a community of basic individuals, as a community of gods.

- The creation of the unlimited general space produces the fourth genus of art, painting. It is realized in the formation of the interior in architecture, in the separation of the closed space from the general space. This is the level of monotheistic conception which, according to Coellen, is attained through Hellenistic culture, and lasts until about the beginning of the Christian era.

Coellen maintains that these four levels are considered as the first of the epochs, that of the objective cosmological conception. It continues and remains alive, however, up to the present epoch and changes of style in art are brought forth with changes that take place in the conception of the spheres of existence of God and life.

Significantly, as also pointed out by Diez, "ornament" is identified here as an independent type of art in addition to the three recognized genera of art, namely sculpture, architecture and

painting. It is thus distinguished from mere decoration.

Armed with this thinking Diez outlines the methodology of Coellen whereby space creating principles are defined as Cubism and Organizism, derived from the Mechanistic and Organizistic spatial orders. To these are added the dynamic and static concepts of world view as additional style qualifiers, and finally an abstract-scheme of Coellen's system, ranging over the period since the beginning of the Christian era, is drawn as follows:

A. Cubism

- 1) Ornamental style. Collectivism of the individuals. - Byzantine art (to which Diez adds also the Islamic art.)
- 2) Plastic style. Static. Mechanic mass-individuality. - Romanesque.
- 3) Tectonic style. Dynamic. Organized assembling of mass-individuality. - Gothic.

B. Organizism

- 4) Tectonic style. Static. Organized assembling of organic individuals. - Renaissance.
- 5) Painterish style. Dynamic. Totality of being. - Baroque.[4]

Diez's attempt has been covered here at some length for one major reason. To identify as succinctly as possible a methodology developed outside the concern area of Islamic built environment, and to show its failure to arrive at sensible and meaningful theoretical content when applied to the Islamic built environment itself. Diez applies this methodology to Islamic art in the second part of his study and comes up with a number of points. Before considering these points, some pertinent comments may be recorded here.

Though the honour of being the first to coin the term "ornamentalism" as a style generic category is attributed to Coellen, he apparently arrived at this conclusion not through a study of Islamic art, but of European art. Ornamentation on the other hand has a very important, leading and influential role in the shaping of the Islamic built environment not equalled in any stage of European art styles. Its influence on the evolution of western views as regards art is also an established point in historical studies at different periods. The nature of the conclusion would be indeed different if Islamic art was made the source of study. For example the absence (by prohibition) of sculpture from the list of style generic categories in the world of Islam enhances and emphasizes the role of ornamentation in Islamic art to a degree that does not exist in other cultures.

Finally, despite a sympathetic relevance of references to the transcendental dimension and the placing of art on the same footing with ethics and religion, views with which present study is in sympathy, no account has been taken of the conceptual differences that may exist in their understanding by western ideologies and Islam.

After these comments a more precise understanding can be developed as regards the results of the application of this methodology by Diez to Islamic art. Diez concludes that:^[5]

- Islamic art has the restriction to the plane in common with Early Christian and Byzantine and thus the former as well as the two latter belong to the ornamentalistic style phase of art development, determined polarly. [See the first, the lowest genus of form quoted earlier].

- There are far reaching differences between Islamic and

Byzantine art, although they belong to the same category and style. [If so how can this be accounted for in the methodology adopted?]

- The mass of Islamic memorial building according to category...belong to the tectonic order of formation of limited partial space, to the phase of polytheistic religions as it had been visualized in the art of the old oriental empires of Greece. [If so then it is not Islamic. To what group would the non-memorial buildings be allocated?]

- Islamic architecture did not take part in the forming of the interior, although it appears now and then as a borrowed form. Later Ottoman architecture cannot be cited as an exception, as it developed entirely in the spirit of the Italian Renaissance. Although Islamic architecture remained in the categorical order of pre-Christian tectonics, its buildings were nevertheless raised to the phase of contemporary polar ornamentality and are thus to be recognized as children of the period of absolute, so to say, aprioristic general space. [Painting as understood in the West, at least till the advent of abstract art in the early twentieth century is conceptually and ideologically foreign to the world of Islam. As such the conceptual formulation of the interiors can not have the same connotations and relevance to the development of painting according to the western experience.]

-The real function of the Islamic dome lay in its outward effect, which was heightened by the reflecting splendour of its glazed spheres... The surprising but inevitable conclusion is that the genuine dome as polar space-building originated entirely in the Western mind and did not come from the East [Diez carefully mentions that this is from the style-genetic function point of view and not from the doubting domes invention in the Afro-Asiatic desert zone. However symbolic and mystical connotations of domical forms are so abundantly expressed in writings of Muslim scholars that one cannot help but question the validity of such a conclusion].

The list is not complete but from what has been said it will be possible to judge the validity or otherwise of the methodology used in arriving at an understanding and/or developing a viable theoretical basis for Islamic art/ architecture.

This lack of grasp of the "inner nature" of the subject and attempts at its analysis through external methods is very much clearer in the last point that will be quoted here. Diez formulates it in the form of a question as another evidence of orna-

mentality in the social life of Muslims.

- And why do the prayers at the general religious services stand in long horizontal rows parallel to the latitudinal Kibla wall and form ten to twenty even layers one behind the other? The law of ornamentality is thus confirmed in life.[6]

One does not know whether later anyone did tell Mr. Diaz why in fact Muslims stand in rows during the performance of their devotion in congregation shoulder to shoulder with eyes fixed on the point that their foreheads later touch in total submission and devotion to their Almighty Creator.

ii- "THE FOUNDATIONS OF ISLAMIC ART"

Titus Burckhardt devotes the fourth chapter of his book Sacred Art in East and West, published in 1967, to "The Foundations of Islamic Art".^[7] Himself a convert to the faith of Islam after having acquired prominence in Art criticism in the West, and active amongst a group of European mystic Muslims^[8] the author has a considerable amount of scholarship and study to his credit. This particular book addresses itself to a general European audience that shares a common heritage in the Judeo-Greco-Roman-Christian world of art. To have included "Islamic Art" as a topic, unless for a different purpose than congruity with the title of the book, seems questionable from a basic premise that Islam itself holds. The proposition of a "sacred art" begs the existence of a "profane art" and clearly both cannot co-exist in Islam. In fact the author alludes to the possibility of the co-existence of both sacred and profane art forms very early in the chapter when he speaks of "...A plane image is tolerated as an

element in profane art, on condition that it represents neither God nor the face of the Prophet". There are other points in this work by Burckhart to which exception will be taken. However, amongst western scholars he is the first to approach the subject from a theoretical point of view and, despite the statement just made, mainly from the viewpoint of Islam's canonical sources.

Starting from the premise that the creation is relative to the Creator Who is the Absolute, Burckhardt considers that attributing to the relative an autonomy that does not belong to it is in fact an attempt to project the nature of the absolute into the relative. Identifying this as being a fundamental error, its application to art is described in the following words.

As applied to art, this means that every artistic creation must be treated according to the laws of its domain of existence and must make those laws intelligible; architecture for example, must manifest the static equilibrium and state of perfection of motionless bodies, typified in the regular shape of a crystal.[9]

He further amplifies this point by refuting the criticism advanced against "Islamic architecture" in some quarters for its supposed failing to accentuate the functional aspect of the elements of a building, as does for example Renaissance architecture. He maintains that to do so will confuse the reality and be insincere in the perspective of Islam. In another words, "Islamic Architecture does not seek to do away with the heaviness of stone by giving it an ascending movement, as Gothic art... [10]

The "Objectivity" of Islamic art is a further extension of this line of thinking which he describes as being "mystical" and distinguishes it from "rationalism". Burckhardt maintains that

the rationalism of the Renaissance was nothing less than a subjectively anthropometric interpretation of architecture. In Islamic art however, according to him, nothing of the sort exists; its logical essence remaining always impersonal and qualitative. This conclusion is finally formulated into a statement and given an air of authority by alluding to its confirmation by Muslim masters as follows:

"...Art consists of fashioning objects in a manner conformable to their nature, for that nature has a virtual content of beauty, since it comes from God; all one has to do is to release that beauty in order to make it apparent. According to the most general Islamic conception, art is no more than a method of ennobling the matter." [11]

The second consideration submitted by Burckhardt as being relevant to "Islamic art" is attributed mainly to the influence of the nomadic element of Islamic entity and relates to the intensive use of geometric patterning. According to the author,

"The geometrical genius, which asserts itself so strongly in Islamic art, flows directly from the kind of speculation favoured by Islam, which is "abstract" and not "mythological". ...The sense of rhythm, innate in nomadic peoples, and the genius for geometry: these are the two poles which, transposed into the spiritual order, determine all Islamic art." [12]

The rest of the chapter deals with "Arabesque" as a typical creation of Islam, considering it as a sort of "dialectic of ornament". The discussion that ensues does not provide any further elucidation that could contribute towards a new theoretical formulation.

Titus Burckhardt published another book later in 1976 under the title of "Art of Islam - Language and Meaning". [13] Though beautifully illustrated with extensive pictures there is not much new

material than that already covered in this earlier book to expand the field of theoretical development. Only in the last chapter where he deals with the City does he approach as near as he could the fundamentals affecting planning and design of minor or major elements in an urban setting. Even in these instances he cannot extricate himself from sympathetic but descriptive accounts of "what" a particular figuration is instead of penetrating into "why" such a figuration was realized.

"A general and enduring characteristic of Islamic town-planning, and one which derives directly from the Sunnah, is that the commercial and residential areas are kept strictly apart... dwellings are, for preference, situated well out of reach of the market and the traffic roads, and are accessible for the most part only through narrow, winding alleyways, the function of which is in no way comparable to the streets of European towns, even medieval ones, because Muslim houses take their light and air from their own inner courts and not from the street outside. If one looks at the plan of a Muslim town, one finds, next to the avenues cutting through the city, a series of cul-de-sacs of labyrinthine complexity; these are the alleyways or corridors giving access to each of the dwellings piled together in a compact mass.[14]

For a documented explanation as to how such cul-de-sacs or alleyways happen to develop, even in those cases where the new settlement was superimposed upon an existing regular grid pattern, we would have to wait for Besim Hakim's "The Arab - Muslim City".[15]

iii- "ISLAM AND MUSLIM ART"

Alexandre Papadopoulo, in his voluminous book which first appeared in French in 1976,[16] assembled together an immense number of photographs related to the topic, both as textual illustration as well as in various comparative groups covering

the major areas of the topic. A useful addition (part seven) gives a brief biography of major figures as well as a glossary of the non-western vocabulary with which the general public may not be familiar with.

The treatment of the subject is different from the traditional approaches of the western authors and identifies a number of concerns with which it is difficult not to agree in principle. For example in the section of his book which he titles "Muslim art: Bearings and Soundings; Cardinal Points", he seems to take the bull by its horns in the following statement:

Our intent is to view that past glory...by studying the art of all the countries of Islam for what it is: a Muslim art. An obvious and simple truth, yet it seems to have eluded the experts, the many historians of the subject, even when the titles of their works proclaim them to be about Muslim art or the art of Islam. What the specialists have busied themselves with have been the geographical or national influences at work within the Muslim world...

One thing above all else must be taken into consideration: the spirit of the artist himself who selected the strands, made use of them, and interwove them in his own way, in accord with artistic ideals and a particular conception of beauty that were his alone. For the arts and artists of Islam, those ideals were inextricably tied to religion, particularly to the special attitude toward the representation of living beings. From the start, we must be clear as to what limitations and demands religion imposed upon and how they were understood and felt during the formative years of Muslim art...

Much in this art depends on geographical and national influences and the many evolutions that time brings with it, but one can scarcely grasp the role of such factors before having defined what was the generally held ideal of beauty consonant with the Muslim tenets of theology and philosophy.[17]

Papadopoulos would not be able, however, to maintain his laudable intention that puts him amongst the few with such perception. This is the unfortunate fate of most "enlightened" scholars who

do not realize the invisible strength of the discipline that they acquired in a compartmentalized world. Thus this invisible power will always be the guiding force that would condition his perception. Notice this in the following comments:

Merely because a building, such as a mosque, is dedicated to the religion of Mohammad(*) it does not automatically make it a "Muslim" work of art...

Conversely, there can be depictions of episodes from some fable...or the deeds of pre-Islamic heroes...or scenes of love making...and all of these can be Muslim art in the true sense of the term...

We have all learned from modern artists that what counts is not the subject-the world represented-but the art itself as an ensemble of forms and colors brought together in a certain order, what we can call the autonomous world of the art work itself. Looking at a figurative painting we know what really matters is not the what but the how. [18]

His views on the role of "architecture" in the field of Islamic arts is also somewhat lop sided.

In Muslim opinion, architecture was an art only by reason of its surfaces, its skin of mosaic, stucco, ceramic, or marble, the verses of the Koran to be read on its walls, and the fascination of its abstract decoration of arabesques. This would seem to have been the point of view of the architects themselves, since over and over again one sees the architectonic elements transformed into purely decorative components...

But even if the Muslims do not appear to have appreciated architectonic values and if, in consequence, nothing authorizes us to consider architecture as a major art of Islam, this did not prevent their architects from realizing a certain number of master works, nor does anything hinder us from using our own taste and present knowledge to appreciate the beauties of Muslim architecture. [19]

To ascribe an insignificant role to "Architecture" within the concern area of "Islamic Arts" and even blemish the "certain

(*) This term would be objectionable to many muslims, as religion of Islam is not seen something belonging to or emanating from the Prophet.

number of master works" with chance successes rather than intended conscious acts of design is not a slip of the tongue of a layman to be ignored. That such views are not widely held by other scholars is common knowledge. It may probably give the author another distinctive touch of being the only one holding such views in the field, albeit in a negative sense. For example in another publication Umberto Scerrato comments as follows:

Architecture...is one of Islam's most vital manifestations as well as practical servants. Islam was essentially a city religion, and as a result it found in the city its basic elements. ...The most tangible embodiment of all Islam's realities and ideals remains its architecture.[20]

We would not therefore expect much from this work to contribute towards building up a theoretical basis for "Islamic architecture". However this aspect should not diminish the value of his work especially dealing with other aspects of art that are consequential or related to architecture.

At the start of his book Papadopoulo refers to the importance of the Muslim tenets of theology and philosophy. Theology not being an area in which he could immerse himself, he deals extensively with the "philosophy" component. Not surprisingly that component is seen by Mr. Papadopoulo to have been extensively infused with Greek philosophy.

It is mainly thanks to these Oriental Christians that the purely religious aspect of Islam very rapidly became enriched by a universalizing civilization whose language was Arabic from one extreme of Islam to the other, and that took form thanks to the contribution of the Greek philosophy and sciences that the Muslim philosophers, scholars, theologians, and mystics soon incorporated into their own conception of the world. And it was that civilization that constituted the intellectual milieu, the forging ground, in which Muslim art was to flower.[21]

There is then no need to wonder at the author's exposition, under the subtitle of "The Muslim View of the World" of the following principal lines of force and leitmotifs: Platonism; Pythagoreanism; Neoplatonism; and Aristotelianism. Surely the Muslim view of the world is defined primarily - and by necessity of being "Muslim" - through its own principal sources. Attempts to understand it through other foreign "looking glasses" will not help.

The major area of the author's contribution is in the development of a thesis concerning a Muslim aesthetics. In this section of his work, in contrast to the previous one, references are made to various injunctions as contained within the Qur'an, the Sunnah and opinions of the Fuqahā' but these are predominantly concerned with figuration of humans and animals. Only in passing a saying is quoted from Imam Ibn Hanbal in which the Imam remarks negatively on facing of stone and brick with another material. The rest is a kind of review to show how, by adhering to the letter rather than the spirit of a number of hadīth, an art form developed as an abstraction. It is of course miniature painting that is being promoted here as "Islamic painting" par excellence. One may add again that this is also a contested view both amongst Muslim scholars as well as some western scholars. Let us return to Scerrato once more:

Miniature paintings, however outstanding they were to become within the artistic realm of Islam, are not, as Massignon has observed, a typically Moslem art and the fact that they flourished may be explained by the circulation of these works among an elite.[22]

In fact Umberto Scerrato is unique amongst the western scholars in pinpointing within the limits of his introduction to his book,

all the principles that a Muslim would accept to be valid in the system enunciated by Islam.

iv- "ISLAMIC ARCHITECTURE"

John D. Hoag, within the eighteen chapters and over 400 pages of his book "Islamic Architecture",^[23] published in 1977, covers in the best western tradition of descriptive history a survey of buildings in the Muslim world within a system of classification personal to the author.

The author's introduction to the book is the key to his understanding of the subject matter. His definition as presented in the opening sentence is quite concise and in its conciseness very misleading.

"If we define the architecture of Islam as that building produced by the followers of the Prophet Muhammad...we sense a remarkable diversity at first. ...Yet after an analysis of all these seemingly diverse factors, we detect the emergence of certain unifying principles worth noting here."[24]

Though a plural form is adopted for "principles" and a first principle is given at some length as will be identified in the quotation below, no second or third principle is proceeded with in the introduction. In addition a novel issue, never suggested before, is also raised as regards the "function" of the "architecture of Islam".

"The first of these [principles] may be explained as the survival of antique architectural principles in a far more fundamental way than survived in the West. ...Such mosques ...founded at Kufa and Wasit in the central Mesopotamia,... may owe more to the Roman transformation of the Greek agora into a colonnaded square with an adjoining basilica (for example, the Caesareum at Cyrene or part of the later Forum

of Trajan at Rome). Certainly the function of early Islamic mosques as places of assembly, schools, commercial hubs, and law courts, as well as prayer follows an antique precedent more Western than Oriental." [25]

Apart from suggesting "the survival" of different antique architectural principles from various antique regions, no other "unifying principle" in the architecture of Islam is given. Even this principle is contradicted in writings of other western scholars. For example Oleg Grabar maintains that the "...conception of a large space, partly covered and partly open, flexible enough to suit the manifold needs of a whole community, was a strikingly contemporary idea". [26] Grabar ascertains how step by step the hypostyle hall was "rediscovered" by Muslims as they clarified further and further their needs, instead of having adopted the plan type as they found it.

The following extract defines the nature of what was earlier described as a novel suggestion advanced by the author:

Having suggested that the survival in form and perhaps in meaning of very ancient elements of design is far more likely in Islamic than in Western European architecture may provide a fruitful method of understanding the former... [27]

With this idea Hoag seems to have arrived at the same point as that of another eminent orientalist scholar, Gustave von Grunebaum. In one of his works Grunebaum also looks upon the study of Islam as a useful area of "cultural research" intended to deepen the self understanding of Western civilization. [28] There is always a danger inherent in such attitudes where examples are utilized not for understanding their nature but by contrast to heighten an understanding of an accepted position. Human nature is such that, having already committed itself to the value or

truth of a proposition, examples are selected from similar but opposing propositions only in the degree of maximum contrast they provide to heighten that value or the truth. In the process aspects of the "supporting evidence" may be exaggerated, distorted, or by selective choice be mis-represented.

The remaining part of the introduction is devoted to the enumeration of certain terms employed in the study of "the high cultures of the New World", such as Pre-Classic, Classic, and Late Classic as "useful" to apply to Islamic architecture as well. For example:

The Post-Classic period as interpreted by Americanists covers the rise, if not of nations, at least of military hegemonies, sometimes of vast extent...In conjunction with Islam the term will be used here with reference to the last great innovators in Islamic architectural developments.[29]

What remains to be added is the very comprehensive coverage of the products in the field of "architecture" in Muslim lands that the author achieves in his book. Where physical particulars of buildings are concerned it is an immense source of information.

Hoag does not seem to have been advancing much further than the point he already reached in one of his earlier books published in 1963.[30] One comes across very early in the book a misconceived common attitude of his milieu as regards the religion of Islam. To Hoag, Islam is "resignation to a pre-ordained fate, coupled with the search for a purely personal salvation - more Buddhist than Semitic".[31] This is also given as the cause of the continuous political fragmentation exhibited by Muslim history. Miraculously however a recognizable architectural style grew persis-

tently from Spain to India. The question that begs itself in this very simplistic overview is a serious one. If there was no intentional effort on the part of "fatalist" Muslims to shape a particularly Islamic environment, than the emergence of a recognizable "Islamic style" over such a wide piece of geography can only be attributed to Divine design. Is this what is meant? The question does not seem to have occurred to the author.

There are a few observations (points!) in the earlier book that have not been included in the last. For example reference is made to an "Islamic architecture invention" which is concentrated around two major programmes, the Mosque and the Palace. A mosque is designed to achieve an inner calm through generating an attitude of contemplation with its design upon its users. The Palace on the other hand is intended to emphasize the power and authority of the ruler. Thus "the Mosque and the Palace concepts just described affect nearly all other major programmes of Islamic architecture".^[32] In both books the introduction is the only place where such brief comments are made. The rest of this first book is also a beautifully composed descriptive prose of architectural objects in the by-gone days of Islam.

v- "WHAT IS ISLAMIC ARCHITECTURE"

"Architecture of the Islamic world - Its History and Social Meaning", edited by George Michell was published in 1978. It contains a number of texts by various scholars. The keynote text is by Ernst J. Grube titled "What is Islamic Architecture?",^[33] in which he sets the tone of the book and suggests that there is

a recognizably distinctive entity that one can call "Islamic architecture":

Is there an architecture that can be recognized as different from other architectures created outside Islam? If the answer to this question is in the affirmative - and there seems little question that it must be - we are faced with the need to define those qualities that set Islamic architecture apart from non-Islamic architecture.[34]

He proceeds to enumerate the qualities that he considers significant in setting apart "Islamic Architecture" from the non-Islamic. Clearly any listing of a set of "qualities" cannot but be generalized statements based on an individual's personal understanding (or his adoption of another person's understanding) of the very subjective entity of "quality". Though their validity may not be disputed for different reasons by others, they are questionable in their sweeping generalities. They are also rather vague in not being "exclusive" in the sense that other "architectures" may also be attributed with some, if not all, of these "qualities". Would then a "half" or "quarter-Islamicity" be ascribed to them? Following is a partial list of Grube.

- Concentration on the interior and disregard for the outside. The facade should be unrelated to the interior that it fronts.

- Enclosed space, defined by walls, arcades, and vaults is the most important element.

- 'Hidden architecture', [architecture that truly exists only when...experienced from within] is the main and dominant form of truly Islamic architecture. Almost total absence of a specific architectural form for a specific function. (Tendency) to adapt function to preconceived forms.

- Rare display of inherent directional or axial quality... the absence of which would in many cases leave the visitor unsure of his orientation. It is also clearly expressed in the lack of balance between various parts of a building complex.

- [Main purpose of] decoration appears to be the creation of non-tectonic values, the dissolution of all those elements that in other architectural traditions emphasize the structure...[35]

Having gone over in much more detail than the way he has been quoted above, Grube identifies the epitome of this "concept of architecture" [presumably the enumerated qualities assumed to have defined the concept] as having been reached in the Alhambra, at Granada, "undoubtedly among the most...technically accomplished Islamic architectural design". That Alhambra is unique with very fine and original features is granted, but its identification as being amongst the most technically accomplished Islamic architectural design surely needs more substantial proof.

Towards the end of his introduction something approaching a kind of confession may be observed in the following statement:

"...The interpretation of it [islamic architecture] as a whole as well as the understanding of its specific parts can only be successful and meaningful if seen against the background of Islam as a cultural, religious and political phenomenon and only in the precise relation to the specific circumstances that led to its creation.[36]

It is not clear whether the book will set out to provide such an interpretation or whether the statement implies that nothing so far, including the book itself, is referring to any aspect of this background. How can one keep on reminding authors and scholars of considerable talent that where Islam itself (or any other ideology for that matter) is the qualifying element in any consideration than it does not make scholarly sense to assign a "background" role to the religious phenomenon of Islam.

A different book to those reviewed above appeared in 1973 with a title that reflected the different approach taken by the authors, Nader Ardalan and Laleh Bakhtiar. "The Sense of Unity - The Sufi Tradition in Persian Architecture" is just what it says^[37] - a very heavy Sufic overlay on top of the traditional architectural experiences of Persia.

A number of points make the book worthy of close study. First of all the principal author, Nader Ardalan, is a practising Persian architect well versed with the architectural material he is dealing with. Secondly a higher dose of theological significance than found in other studies has been accorded in this book to the art of "architecture". Admittedly this higher dose is very much weighted or rather couched in a tradition that forms only part of the totality of Islamic sciences, the tradition of Taşawwuf, and particularly of the Shī'ī School. Even with this slant there does exist a number of significant observations that call for comment and consideration.

The co-author Laleh Bakhtiar published later in 1976, under her own name, another book titled "Sufi - Expressions of the Mystic Quest", which extracted the mystic dimension of the co-authored book into a separate single work.^[38] It would have been an interesting study if the principal author did the same and re-wrote the material in the co-authored book, retaining only the "architectural" content. Then we would have had a substantially concentrated statement of the aspects more pertinent to the

shaping of an Islamic environment (within the Persian context) and avoided aspects that would be more of interest to a specialized group dealing with the "environmental concerns" of the mystic movements.

The foreword of the book is provided by Seyyed Hossein Nasr who holds a very eminent position amongst the previous Persian Imperial establishment as well as the islamically oriented but western educated intelligentsia of modern Iran. This is also clear from the title page which announces that the book "is published on the occasion of the twenty-fifth centenary of the foundation of the Persian empire..." Many of Professor Nasr's works are cited in the text as further reference.^[*] At the outset Nasr identifies the word "tradition" as a term having a different meaning from that in customary usage. "Tradition" is considered by him to be certain immutable principles of heavenly origin that are applied to different moments of time and space. As such it is the "presiding Idea" of a normal society and the animating principle of the whole life of a people. This is in line with the "perennialist" philosophy of writers like F. Schuon, R. Guenon, A. K. Coomaraswamy, M. Pallis, T. Burckhardt and a few others. For the sake of clarity the text should be looked at from this understanding of "tradition". Nasr sets the tone of the work in the following words of his Foreword.

Islamic architecture, like all traditional architectures, is intimately related to cosmology. Traditional man lives in a universe that is meaningful. The cosmos reflects the Divine Principle and so does man. Therefore, man is himself inti-

[*] The contributions of this particular scholar at the 1st. Aga Khan Award for Architecture Seminar have been referred to at some length in the first chapter of this work.

mately related to the cosmos. He is the microcosm and, like cosmos, reflects the Metacosmic Reality. [39]

With all the respect that is due to the learning and scholarship of the eminent professor, there does enter into his arguments statements that would be caught in the sieve of a serious observer when contrasted to the basic tenets of Islam. The scope of mystic embrace that aims at an all-inclusiveness mars the theoretical purity of the arguments. This can be seen in the following excerpts from the foreword.

Traditional architecture, especially that of the temple in general and the mosque in particular, is also an image of the cosmos or of man taken in his cosmic dimension...

- And the architecture of the house and the palace, which in Islam is inspired by sacred architecture (the house being in a sense the extension of the mosque)-...

Because the unitary point of view so emphasized in Islam leaves nothing outside its scope and refuses to recognize a legitimate domain of the purely secular or profane in contrast with the sacred, all Islamic architecture, whatever its use, is seen in its traditional setting in the same light as the strictly "sacred" architecture such as the mosque...

The octagonal form of so many mosques is not just an architectural device to enable the architect to place the dome upon a square base, but a reflection of the Divine Throne ('arsh), which according to Islamic traditions is supported by eight angels. ...[40]

Placing a temple and a mosque in the same conceptual category; imparting the same sacredness to a Palace and a house as to a mosque; "lumping together" all traditional architecture including princely palaces and princely mausolea within the sacred precinct of "Islamic architecture"; and finally, crediting the octagonal form as a suitable geometry for a mosque in an "Islamic architecture" is as relevant to Islam as the "Occasion of the twenty-fifth centenary of the foundation of the Persian empire". [41]

In coming to a consideration of the text of the book itself the structure of its various parts will be adhered to. It is divided into three parts. The first part, "The Morphology of Concepts" comprises one half of the contents. In this part a detailed consideration is made of Space, Shape, Surface, Colour, and Matter as "fundamental elements involved in all traditional architecture". The second part, "The Concept of Traditional Forms", takes up Garden, Socle, Porch, Gateway, Room, Minaret, Dome, and Chahar Taq as the formal elements of the traditional architecture. The final part, "Levels of Realization", deals with the topic of order in "Islamic" human settlements. These are considered to be three, the Natural Order, the Geometric Order, and the Harmonic Order.

The first significant observation of the authors may be found in their introductory note to the Morphology of Concepts. This holds the key to the rest of the work and requires critical assessment.

The Islamic tradition, the monuments and records of which are readily available to us today, constitutes the field of reference of this work. It is a tradition that sustains the unified character of society whilst elaborating its exoteric and esoteric dimensions. The exoteric dimension concerns the Divine Law (Shari'ah) and man's behaviour, but is not directly related to the creative principles of the traditional man. Rather it is the gnostic aspect of Islam, the Way (Tariqah), in which are found the principles which govern Islamic art, especially architecture. [42]

It is clear from this extract that the epistemology of Islam has somehow been side-stepped and one sector out of the totality of the fields of sciences, that of Taşawwuf, given the leading role over the shaping of the environment. [*] What is referred to as

[*] For a discussion of the concepts involved see the first part of Appendix One on "Epistemology" in Islam, as well as the Glossary at the end of the study.

the exoteric dimension, the Shari'ah, is the basis as well as the sum total of Islamic jurisprudence that also governs and defines the boundaries within which Taşawwuf (the Tariqah of the author) can function.

As one expects, the role of "Man" within the universe is also taken up in this section and his various attributes re-stated. In doing so the central position of traditional education is touched upon.

Here the central position of traditional education must be mentioned, whose methods introduce man to the explanations of the external aspects of things as well as provide the mean of penetration into the inner mysteries. ...A typical product of such a society's educational system is the architect-planner, who is given the title muhandis - 'he who geometricizes' - and who thereby embodies in his name the fundamental emphasis of the system.[43]

Here again a very fundamental conceptual error is made, surprisingly so in view of the importance given to the "esoteric" dimension of man's role. To look upon the "architect-planner" as that person who "geometricizes", would squarely place him within the Classical Greek, Roman, Renaissance, and Rationalist tradition that has nothing in common with the concept of a discipline that shapes the environment within the system of thought of Islam. This particular point will be elucidated further in the next part of the present study. The system of education itself is not explained in its relevant content and only sketched to identify the master-disciple relationship that existed in a craft guild, a madrasah and a khanqaqah.

Having identified the principal weaknesses in the conceptual formulations of the authors the actual substance of their work

that hopefully will aid the development of a theory can be looked into. One of their main contributions is the definition they have given to "space". Leaving aside the mystical connotations and considering the quantitative aspects of their exposition it is seen that they derive a concept of "Positive Space" which they maintain to be of vital importance to the understanding of the architectural tradition of Islamic Iran. According to this concept it is not for the shape (the container), but for the space (the contained) to lead in the generation of the form. Such a space is "cut out" from the material forms around it and is defined by the inner surfaces of these forms. The elementary fact that man moves through unobstructed space rather than through solid mass is thus recognized in this architecture. The strength of the encounter of the space with its boundaries and the clarity of its expression provides the opportunity for creative excellence.

This "carved" space generates a system of spatial links in a hierarchy of spaces that are identified as follows: primary space system (the main flow of the bazaar) that culminate in a nodal point, secondary space system (pathways into residential quarters), dependent space system (shops or rooms). Thus:

The active quality of the positive space carves the spatial connection, flows rapidly through the transition...and expands into the culminating spaces, pushing the membrane... outward and making them taut; transforming the walls of rooms into transcendent niched volumes; and turning the ornament of the surfaces into poetic testaments of the will of the soul to return from whence it has come.

The result is an internal architecture inseparable from the fabric of the cityspace, an architecture indicating that the creative act is less concerned with objects in space than with preservation of space itself.[44]

So far something substantial seems to have been posed. In the next topic, however, that of "Shape" which is defined as being the result of the delimitation of structured space, the theoretical basis becomes difficult to fathom. Numbers are stated to be the units of this spatial definition, which geometry expresses the "personality" of these numbers. Thus a "science of numbers" is expounded that is interesting in its intellectual progression into proportions. However, the ascribing of various meanings and values to these numbers lacks convincing relevance to the act of design. There is no link between such value connoted numbers (similarly with geometry which is presumed to provide a personality to the shape) and their transformation into a particular shape as expressing a certain quality of "Islamicity" in the environment. The sources used for the theory developed, through their translation by Nasr in his Introduction to Cosmological Doctrines, is a tenth century anonymous compilation from the Ikhwan as-Safa.^[45] For example the number six is identified as a hexagon in its static geometry and as the star of David in its dynamic geometry. In Macrocosm it is made to signify the body, having the six aspects of above, below, front, back, right, and left. In Microcosm it is made to signify the six powers of motion in six directions as up, down, front, back, left, and right. In its Mathematical Attributes the number is stated to represent the first complete number, the number of surfaces of a cube.^[46]

"Surface" as a determinant of a "Shape" receives a similar treatment that does not clarify the direct relevance to the actual realization of the final element. However, an aspect of the surface in the scheme of design, that of surface adornment, which

is so very characteristic of the traditional buildings within the world of Islam, is also dealt with at some length. "Ennoblement of surface through the transformation of matter" is given as the primary purpose of this adornment, maintaining that "only in this way can matter lose its heaviness... which keeps them from the Divine".^[47] This would be the summary of the views expressed though much extrapolation is resorted to in explaining the geometric basis of decorative techniques as well as the role of Arabesque pattern and Calligraphy in the adornment activity.

The part that deals with Traditional Forms is the most unconvincing for "form" itself is the "object" that Islam's system of thought is set to negate in importance or significance. This point was also observed by the authors during an earlier part of the book. (See last paragraph of the quotation above marked as note 40.)

In the concluding part, Levels of Realization, the opening statement is true to the spirit of the book: the heavy Şūfic overlay. "The artifacts of man are crystallizations of temporal forms united through prescribed systems of relationships reflecting heavenly archetypes".^[48] However there is also a reflection of the understanding identified earlier as being a significant contribution. This is related to the qualification that was assigned to "space" in the various orders that an Islamic settlement is supposed to be organized by.

The primary continuity [of the City] results from the concept of positive space exalted through the profound use of symmetry and rhythm. ...Within the... shape of the total city...positive space carves out a hierarchy of negative, geometric volumes through which man moves. An interior ar-

chitecture that preserves and is inseparable from the fabric of the cityscape is the intent. ... The creative act is less concerned with objects in time than with the rhythmic continuity of space itself and the synthesis of space and time[49]

In addition to many beautifully rendered drawings the book contains several photographs that identify significant examples in all their variety of details in the Persian experience of shaping the environment. However from a theoretical point of view the most valuable contribution of the book is the concept of "positive space" as a major feature of the Islamic built environment.

vii- CONCLUSION

One conclusion that comes out of this review is the lack of any particular system, point of reference or methodology which could be used to identify the constituents of, and develop a relevant theory with which to read, evaluate as well as generate products that will be considered as "Islamic architecture".

Even at rare moments when the system of faith itself with its canonical content is identified as being by necessity that point of reference, the logical conclusion is not fully appreciated and taken account of. Either the implications of the system is not appreciated in all its inferences, or only one facet of the system is given over-weighted prominence that distorts the contents of the consideration.

A second important conclusion is the uncomfortable positing of "Islamic Architecture" as a constituent element of the general field of " Art", thus equating it with mere object making which

is often the primary concern of "Art" as a discipline. Paintings, ceramic objects, miniaturers and various other artefacts as objects of visual concern, have an enormous scholarship supporting it within western culture. It has built up a distinctive theory and a methodology to back up its claim to a privileged position in the cultural domain. However, by diminishing "architecture" to an element in this field as an object to be admired visually will automatically accord to it an assumed and false nature as an "object" of adoration and thus push it outside the morality of Islam.

It goes without saying that the development of a valid theoretical basis, and a methodology that would fix criteria for judgement and evaluation of the subject matter is the most pressing task that has to be tackled immediately, and before an educational programme to teach "Islamic Architecture" is or can be implemented.

In spite of this statement which acknowledges the lack of consensus on a Theory of "Islamic Architecture" as at present, and which suggests that work start immediately on developing such a theory, an educational programme will be the aim and end product of this study. It will not be the task of the present effort to elaborate a theory as such but some thoughts on the matter will be advanced, in the light of the observations made above, in the next chapter of the study.

- 1 Ernst Diez, 'A Stylistic Analysis of Islamic Art', Ars Islamica, (Ann Arbor: Univ. of Michigan) vol. iii pt.2 (1936), pp. 201-212.
- 2 Information regarding Coellen's work is supplied by Diez as follows: Ludwig Coellen, Der Stil in der Bildenden Kunst, (Darmstadt: Arkadenverlag Traisa, 1921). 347 pp. 57 Figs.
- 3 Ernst Diez, op. cit., pp. 202
- 4 Ibid., pp. 212.
- 5 Ernst Diez, 'A Stylistic Analysis of Islamic Art', Ars Islamica, (Ann Arbor: Univ. of Michigan) vol. v pt. 1, 36-45 (38-42).
- 6 Ibid., 44.
- 7 Titus Burckhardt, Sacred Art in East and West, (Bedford: Perennial Books, 1967).
- 8 Leading members of this group who are accomplished writers in their own right are: Martin Lings, Frithjof Schuon and Rene Guenon.
- 9 Titus Burckhardt, Ibid., pp. 102.
- 10 Ibid., pp. 102.
- 11 Ibid., pp. 103-104.
- 12 Ibid., pp. 106.
- 13 Titus Burckhardt, Art of Islam, Language and Meaning, (London: World of Islam Festival Publishing Co., 1976).
- 14 Ibid., pp. 189.
- 15 Besim Selim Hakim, Arabic-Islamic Cities, Building and Planning Principles, (London, New York, Sydney and Henley: KPI, 1986).
- 16 Alexandre Papadopoulo, Islam and Muslim Art, (New York: Harry N. Abrams, Inc., 1979. (First published in French in Paris, 1976)
- 17 Ibid., pp. 22. The term "Muslim Philosophy" would also be objectionable to many traditional scholars of Islam. It is not considered as a category of discipline especially after al Ghazali's succesful effort to counteract its intrusion into Islamic scholarship through a study of Greek Philosophers. "Muslim Thought" is preferred instead.
- 18 Ibid., pp. 23-24.
- 19 Ibid., pp. 25.
- 20 Umberto Scerrato, Monuments of Civilization, Islam, (New York: Grosset & Dunlop, 1976), p. 12, 13.
- 21 Alexandre Papadopoulo, op. cit., pp. 32.

- 22 Scerrato. Op. cit., p. 12. (underlines added)
- 23 John D. Hoag, Islamic Architecture, (New York: Harry N. Abrams, Inc., 1977).
- 24 Ibid., pp. 9. The underlines are mine. Not all the followers of Prophet Muhammad may be particular in their observance of his example. To place the deeds of these as well into the same summation and ascribe them to Islam will not be just or proper.
- 25 Ibid., pp. 9.
- 26 "...This functional need [a place where all the Muslims in the community could gather together] was the basis for the single most original creation of Arab Islam - the hypostyle mosque. ...it is possible today to reconstruct the process whereby the ancient hypostyle form was rediscovered and made to meet the new functions - the mapping out of a vast space, the reconstruction of a covered area on the qiblah side, the creation of a portico around the rest of the building, and eventually the building of walls with large numbers of doors that made the mosque accesible from all directions. The earliest mosques were very simple buildings, and their artistic merits were not so great. But the underlying conception of a large space, partly covered and partly open, flexible enough to suit the manifold needs of a whole community, was a srtikingly contemporary idea."
- From Oleg Grabar, 'Architecture and Art', John R. Hayes, (ed.), The Genius of Arab Civilization - Source of Renaissance, (Cambridge, Massachusetts: The MIT Press, 1978), pp. 84. Originally the book was published in 1975.
- 27 John D. Hoag, op. cit., pp. 10. (underlines mine).
- 28 Gustave von Grunebaum, Modern Islam: The Search for Cultural Identitiy, (Berkley: University of California Press, 1962).
- 29 John D. Hoag, op. cit., pp. 11.
- 30 John D. Hoag, Western Islamic Architecture, (London: Prentice-Hall International, 1963).
- 31 Ibid., pp. 10
- 32 Ibid., pp. 10
- 33 Ernst J. Grube, 'What is Islamic Architecture?', George Michell, (ed.), Architecture of the Islamic World, (New York: William Morrow and Co. Inc., 1978) pp. 11-14.
- 34 Ibid., pp. 11.
- 35 Ibid., pp. 12, 13, 14.
- 36 Ibid., pp. 14. (underlines mine).
- 37 Nader Ardalan and Laleh Bakhtiar, The Sense of Unity - The Sufi Tradition in Persian Architecture, (Chicago and London: The University of Chicago Press, 1979).
- 38 Laleh Bakhtiar, Sufi - Expressions of the Mystic Quest, (London: Thames and

Hudson, 1979).

39 Nader Ardalan, op. cit., pp. xii.

40 Ibid., pp. xii-xiii.

41 The story of Sa'd ibn al-Waqqas, one of the Sahabah, and a commander of Caliph Omar who accomplished the final conquest of the Sassanian Kingdom of Iraq in 637 AD. by sacking Ctesiphon, will not be unknown by Professor Nasr. After founding the the historically important town of Kufa, on the orders of Caliph Omar, he builds a Dar al-Amara (Governor's Residence) adjacent to the Qibla wall of the main Mosque. However, on hearing the description of the way the palace was "regally" built Caliph Omar gets very angry indeed and in 640 AD, upon Sa'd's dismissal orders its burning.

42 Nader Ardalan, op. cit., pp. 3.

There is a lack of clarity in the terminology used here. The word Tariqah, literally means "the way" but terminologically it has acquired a different meaning. In the process of the development of Tasawwuf, different methods became established as particular to a branch headed by a guide within the overall movement. Two streams or schools became established. One group applied their method of obtaining control over the self with oral accompaniment, the other preferred a non-oral quieter method. Each of these branches are referred to as the Tariqah, which implies the totality of the methods and ethics defined for the branch. The purpose of Tasawwuf, and therefore all the different tariqah within it is defined within the epistemology of Islam. The statement that the principles that govern Islamic art, especially architecture are found in the movement of tasawwuf can be a disputed matter from a canonical point of view.

43 Ibid., pp. 9

44 Ibid., pp. 17

45 Ikhwan as-Safā is a group of anonymous brotherhood that is presumed to have been in existence in the second half of 3rd/9th. century. They have left behind a set of books that define certain ethical views which enjoyed popularity at different epochs among the intelligentsia. Their validity as a source of reference to derive principles for various disciplines is questionable. This can be understood from the following excerpt as quoted in Richard Ettinghausen, 'The Man-made Setting', in Bernard Lewin, (ed.), The World of Islam, (London: Thames and Hudson, 1976) pp. 57.

"...The ideal and morally perfect man should be of East Persian derivation, Arabic in faith, of Iraqi education, a Hebrew in astuteness, a disciple of Christ in conduct, as pious as a Greek monk, a Greek in the individual sciences, an Indian in the interpretation of all mysteries, but lastly and especially a Sufi in his whole spiritual life."

46 Ibid., pp. 26.

47 Ibid., pp. 35.

48 Ibid., pp. 79.

49 Ibid., pp. 93.

CHAPTER SIX:

CONCEPTUAL BASIS OF "ISLAMIC ARCHITECTURE", AND ITS IMPLICATION FOR AN EDUCATIONAL PROGRAMME

...To cultural research intended to deepen the self-understanding of Western civilization the consideration of Islam commends itself on these grounds:

1. Islam presents the spectacle of the development of a world religion in the full light of history.
2. It presents the further spectacle of the widening of this religion into a civilization.
3. In the development of this Islamic civilization foreign cultural traditions were absorbed, modified and again eliminated. Some of these traditions have also gone into the making of the West. Thus the growth and decline of Islamic civilization...illuminate almost dramatically the processes of cultural interaction and cultural transformation, as well as the concept of cultural influence as such.
4. Islamic civilization constitutes a complete system of thought and behaviour growing out of fundamental impulse and enveloping man in all his relations - to God, the universe, and himself. This system is both close enough to the western view of the world to be intellectually and emotionally understandable and sufficiently far removed from it to deepen, by contrast, the self interpretation of the West.

Gustave von Grunebaum, Modern Islam: The Search for Cultural Identity, (Berkeley: University of California Press, 1962).

i- SOME BASIC CONSIDERATIONS.

As an accomplished orientalist scholar von Grunebaum has helped to enlighten the West about his understanding of "Islam" or things "Islamic". A use value was also found, possibly to justify the interest to others critical of such ventures. In the statement quoted above von Grunebaum restricts "Islam" within the

bounds of "cultural research" and identifies it in this limited form as a useful tool for deepening the "self-understanding of Western Civilisation".

When put in this form, that is when a system of thought defining a particular way of life is paraphrased down to the confines of "culture" and then used as a tool to help deepen the self understanding of another system of thought and a way of life as represented by a complete "Civilization", a number of methodological question marks are bound to arise. There will always be unavoidable undertones that may colour ones consideration when things Western, Eastern, Occidental, Oriental, etc., are compared together or critically contrasted with each other. However neutral one tries to be, one's inherent partiality to a particular life-style, or cause, or ideology, not to mention a system of belief, can generate clouds of misunderstanding instead of deepening the self-understanding that one is after. At least it may act as a kind of insulation inhibiting the understanding of the tool, (the contrasted "culture"), and thus hinder its use or contribution to furthering the cause of science.^[1]

One would therefore hope that the following study is taken on its own merit without being looked upon as a means towards something else. This hope is based also on the the validity of at least one half of Grunebaum's final statement, the suggestion that the system of Islam is "close enough to Western view of the world to be intellectually and emotionally understandable".

This would not be such an unreasonable suggestion any way bearing

in mind the amount of positive academic interaction that took place across the frontiers of the Muslim and Christian worlds in Medieval Spain and Sicily, and the similarities in the transcendent content of Islam and the dominant system of belief in the West, that of Christianity.^[2] The roots of modern intellectual life and the foundations of modern science shares a common crossing point between East and West in Cordoba of Andalus. As a historical reality the validity of the intellectual and emotional nearness between the West and Islam is unfortunately shrouded under centuries of the severest political and economic conflicts. The nature of the conflict became exagarated on the part of the West by its refusal to accord an authenticity to Islam as a revelation. In addition, the value system of modern western man, whether in its ethical or aesthetic dimensions, has been determined to a higher degree by a secular rather than a religious ethos which has enabled it to look upon Islam as outside its tradition. However, in the final analysis conscientious and considered opposition is also a valued part of the western tradition. This last aspect may also help to overcome and avoid any real or imaginary obstacles that the name "Islamic" may still conjure in the mind and thus hinder the understanding of the topic.

What comes to the mind when someone speaks of an "Islamic" or any other classified "Art/Architecture/Environment" in the context of an urban setting, is not a simple work of art or a scientific product, attributable to the efforts of a single person or a discipline, but the result of the collective contribution of very many people in different walks of life. Independently as well as in concert, at the same time or at various intervals, they add

their share to the building up of the "Architectural/Artistic/Environmental Heritage" of World's many urban centres, an entity that never stays static but always reflects dynamic qualities, inviting others to contribute their share.^[3]

It is because of this quality that every city, "Islamic" or otherwise, is diffused with an aura that identifies it physically as well as spiritually with the values and aspirations of the society that brought it into existence. In our particular case we are talking about the entity of "Islamic Architecture", which will be seen in the context of an "Islamic Urban Environment". As a consequence this urban environment will exhibit as a whole, as well as in the character of its individual elements that compose its architectural heritage, the particular type of "Islamicity" that the inhabitants of that environment adhere to.

Having made this statement one would hasten to add that there is a very critical demarcation line to be drawn when dealing with the matter in a scientific enquiry. The particular mass practice of a principle as exemplified in frozen periods of successive time stages has to be distinguished in its constantly changing nature from the pristine and pure nature of the principle in its theoretical totality which should be constant over all stages. Furthermore, the congruency or otherwise of a particular practice with the theoretical principle has to be identified in order to clarify the issues at hand and thus provide opportunity and occasion for further progress towards the ideal practice of the principle.

Thus when looking at the 'Islamic' nature of an environment one should also be careful in clarifying the degree of its 'Islamicity' and not take it as it stands, as being the cardinal truth. This has been the major weakness of most of the scholarship on the subject and the most serious criticism that can be levelled against presently published works. The review of some of the literature in the last chapter has illustrated this point to a degree, but the matter has not been expanded upon there in depth. Being made by "Muslims" and belonging to a community of "Muslims" does not necessarily impart to an object an "Islamicity". Islam as a doctrine must decide if its "Islamicity" has been achieved in an object.

Clearly any urban environment - an "Islamic" one in our case - is not always perfectly and totally moulded by a strict application of externally defined laws promulgated in books or codified by the learned of the state or religion. On the contrary it is a summation of socio-psychological preferences and choices made by the inhabitants based upon the general mass culture which itself is open to many influences. This mass culture at the base will have some form of affinity and link to the doctrines developed and defined by the law or law makers at the apex. However the link may have weakened so much that the primeval essence may have been missed despite being still called by the name "Islamic", or be very much in tune with the word and spirit of the doctrine as defined by the leadership (religious, political, ideological and so on). It depends on how effective the communication is and how acquiescent the masses are to the tenets of the adopted system. [4]

The reflection of the doctrines of religion on daily life has always fluctuated as a result of various factors. By its nature the message in its pristine clarity and unadulterated structure as defined in the sources, is modified through various strata and social institutions into a format that particular level of aptitude of the population in the middle and at the base may be able to understand and articulate this message.^[5] This modification may be so drastic as to change the principles or still remain the same but unintelligible to the masses. In either case the identification of individuals with a system would not mean their complete integration, body and soul, with the demands of the system. Thus looking to a society as a whole and ascribing their faulty interpretations and applications within their environment to the System will itself be a faulty and misleading act. This is why a serious attempt has to be made in the first place as regards the understanding of the degree of conformity to Islam of the matter under study, and its deviation from the actual principles that make up the theoretical substance or the doctrine of the faith or the System. After having defined it, then one can try to establish the means through which these principles can be communicated through the society in such a way that neither its language nor its reflection as physical products in the built environment can counter or compromise the principles established by the Law at the apex.

It is clear that the subject of "Islamic architecture" has not been considered in this way up to present. Furthermore it has attracted a type of scientific enquiry and scholarship emanating mostly from people who are, at best neutral to, but unfortunately

in most cases misinformed if not antagonistic to the very system of belief contained in Islam. This state of affairs has been aided and abetted by Muslim institutions who should have known better. In what seems like attempts at obtaining credibility and status for their efforts, quite a variety of renowned names were invited in the past to participate at scientific "Islamic architecture" gatherings. The result has been a very confused collection of statements which are presented to us in support of and explanation as to what is meant by various concerns represented in the term of "Islamic Architecture". [6]

Running parallel with these activities of seminars and publications on "Islamic Architecture" some elements in Muslim countries have also been voicing their opposition to the direct or implied connotations of the term. Mostly arising amongst an elite group of intellectuals in the Muslim world itself, who have been predominantly secularized in their commitment, they tend to reject any "religiosity" implied by the term "islamic". In these circles, true to their "humanist outlooks" there is no desire to apportion a significant role to "religion" in scientific matters, least of all in technical areas although in cultural and artistic matters some "spice" value is mostly allowed for "religious" elements. We have seen one representative of this attitude earlier in Professor Dogan Kuban of Turkey at the first seminar of the Aga Khan Award for Architecture. One can cite a few more, who, surprisingly surface at these seminars. [7]

In contrast to such opposition within certain secularized circles in Muslim lands, the West has had moments during which clear

stands were taken by some of its scholars as regards the role of religion in the shaping of the built environment. One can cite as an example the case of Augustus Pugin (1753-1837). He would not be widely known in the Muslim lands, neither would be his role in the development of British Architecture nor his contribution to the Modern Movement. Peter Davey, editor of the Architectural Review in an article titled "Pugin Pointed the Way", identifies in Pugin's conversion to Roman Catholicism in 1834, a more profound effect on the nature of British Architecture than the foundation of R.I.B.A. in the same year. He goes on to say that: "It was Catholicism which enabled Pugin to generate a revolutionary theory of architecture which has had a deep, and often unconscious, influence on British architecture for 150 years..."[8]

The west seems not to be much concerned with the presence of any "religious" attachments in any of its institutions or ideals in its educational as well as other establishments. For example, another prestigious institution of learning that does not flinch from stating its spiritual/doctrinal commitment is the University of Notre Dame at Indiana, North America.[9]

Similarly, one can quote the words of an eminent western scientist, that of Professor Huxley, giving a primary role to religiosity in science.

...Science prospers exactly in proportion as it is religious. The great deeds of philosophers have been less the fruit of their intellect than of the direction of that intellect by an eminently religious tone of mind. Truth has yielded herself rather to their patience, their love, their single-heartedness and their self-denial, than to their logical acumen.[10]

The Socialist block does not differ either when it comes to its own "religion" of atheism. One can quote from a UNESCO document where a spokesman for U.S.S.R puts down their policy in very clear terms.

The Marxist world outlook is atheistic; it instills in people confidence in themselves, in their own faculties, and explains nature and social life from the standpoint of science. ...The students receive an atheistic education not only within the framework of the special course. Such general theoretical subjects as physics, mathematics, and chemistry are taught in the higher technical schools from an atheistic point of standpoint.

The courses on Marxist-Leninist aesthetics, ethics, and fundamentals of scientific atheism are accompanied by suitable textbooks, manuals and other literature published annually in the Soviet Union.[11]

Despite being the birth place and breeding ground for secular/humanist ideas, one comes across the western sphere of educational or architectural activities, instances of striving aimed at arriving at a theoretical basis and substantiating a methodology of relevant education derived from a "religious" ideology. In the case of Muslim societies, if "Islam" as a doctrine is going to be the point of reference, than despite the protestations of its secularized elite, one has no choice but to start with the tenets of the "religion" as postulate in everything with which a Muslim is involved.

There are two interrelated fundamental issues particular to Islam as a 'world religion' that should be clarified before progressing further with the study. In the first place, in Islam the "spiritual" and the "temporal" are not two distinct domains separate from each other.^[12] Secondly, Islam is conceived as an all-encompassing system of morality and law. In fact the shaping

and presentation of 'faith' as a single comprehensive, universal and all-embracing system of religion, morality, law, sociology, politics and so on is the most substantial contribution of Islam to human consciousness. The limiting of Islam to a personal faith or to a theological case study consisting of rules related to a system of 'do's and 'don't's hardly does it justice.^[13]

Furthermore, its 'universality' has a different dimension. According to its defined stand as incorporated in its doctrines, it does not consider itself as a "new" dispensation but looks upon itself as the final statement of all the revealed wisdom that came before it, preserving the best that was in them and developing the seeds of the earlier revelations to perfection. This universality does not only deal with matters of the next world for the human race but has a direct relevance to the worldly concerns of each individual, here and now, on this earth. Another condition of this universality is that 'Islamic' knowledge, whether on the plane of abstract ideas or on the level of specific concerns like 'architecture' must be made accessible to all mankind. If it cannot be available for use in all human situations, and cannot be shared, understood by, or imparted to all, then it cannot be 'Islamic' in any meaningful sense.

ii- CONCEPTS THAT DEFINE THE NATURE OF "ISLAMIC ARCHITECTURE"

In the light of what has just been said the subject of 'Islamic Architecture' will be taken up as a universal phenomenon concerning Muslim and non-Muslim alike and having value and meaning to all human race as well as the right and ability of each and every

person to its comprehension and use. Once this right of substantiating a universal position is accepted then it becomes even more a necessity, in order to preserve its integrity and facilitate its appreciation, to define clearly the concepts and terms that are so basic and vital to the study and understanding of the topic in hand.

It may not be inappropriate to restate here that foundation of any body of science is the terminology associated with it. Terminological clarity which has been so blatantly neglected in matters related to Islam, especially in a milieu not familiar with its tenets, must be sought because of its vital role in this study. It is only after a proper clarification of associated concepts and terminologies that one can truthfully consider what constitutes an "Islamic Architecture" in an "Islamic Built Environment" and purpose or the need for such an "architecture" as a universal phenomenon.

A- "ISLAMIC ARCHITECTURE" AS AN INDEPENDENT DISCIPLINE

The lack of comprehension of the implications in the terms used together with the adjective of "Islamic" applies to Muslim intellectuals as well as non-Muslims alike. Due to the authoritarian position obtained or assumed by the West in all fields of sciences, its methodology and value system have acquired a universal validity and have become in-built into the mental processes of both the East and the West. This value system and methodology are consciously or unconsciously used in the categorization and study of any discipline. The use of the term "Islamic architecture" for example automatically assumes it to be

a sub-species of the discipline of "Architecture" and thus unintentionally or otherwise it is made adjunct to an already established, developed western discipline with its solid traditions, theories laws etc. [14]

A simple illustration of this fact is the text of Banister Fletcher's "History of Architecture" (18th. edition). Of its 1390 pages only 53 pages are allocated to 'Islamic architecture'. [15] The example can be extended to include any other "Islamic" adjectived discipline as well. As a result of this assumption, two serious consequences arise. Firstly, in the case of "Architecture", the western discipline and its methodology becomes the unit of measure as to what is worthy and worthless. Secondly this consideration does not provide for the independent existence of a comprehensive, coherent and unique discipline that "Islamic Architecture" may itself be, with its own body of traditions, methods, theories, laws and criteria.

The principle that governs the work of an independent discipline that forms part of a religious culture is that any act of defining and systematizing of its contents must be innate to the pertinent religious culture. Systematization should not be imposed from outside and data that is contained within it must be classified, analyzed, and ordered according to its own categories and not according to those developed in cultures alien to it.

This lack of comprehension of the discipline of "Islamic Architecture" as an independent discipline leads to the second contention of this study. If at all, "Islamic Architecture" can

only be an element within the universal discipline of Islam rather than that of "Architecture" and as such it will derive its validity, value system, and methodology from the world-view of Islam and not from world-views that other disciplines are based upon.^[16] This second contention leads to the belief that all the confusion in the use or misuse of relevant concepts and terminologies is actually the root cause of the failure in identifying the skills, abilities and attitudes required in a shaper and preserver of an Islamic built environment. At the forefront of these come those terminologies of the system of belief itself as they relate to our subject matter. It implies that present educational institutions in the Muslim world are based on false concepts and premises. This basic position, it is suggested, accounts for their failure in producing the right professionals, and consequently the shaping of an environment far removed from one that can be considered as "Islamic".

This assertion is made despite the fact that the education and training of competent professionals, technicians, craftsmen, in fact citizens in all walks of life, constitutes one of the basic tenets of Islam's teaching. The availability through training of at least one of a needed number of a particular professional is the only means of absolving each member of a whole community of Muslims from responsibility in the Hereafter.^[17]

B- ENVIRONMENT AND ITS MODIFICATION BY INSĀN (MAN)

In an urban context we refer to man's habitat, consisting of natural as well as man-made elements, as the built environment. Built Environment is the crystallization in temporary or

permanent statements, of the physical results of the interaction between 'man' and 'nature'. This interaction takes place always in conformity with the attributes of both and is directed towards the satisfaction of the observed needs of man, through his utilization of the available natural resources within the confines of his ability.^[18] According to this definition man becomes both the centre as well as the active periphery of all efforts that continuously form and modify the built environment. Therefore, the terms "man", "natural environment" and nature of its "modification" have to be defined as clearly as possible.

What meaning should one ascribe to "Man" who, in his multiple roles as designer, builder, owner, user, or administrator remains always as the main concern in our considerations? Is he the Homo-economicus, defining the consumer component of an empirical formula? Or is he the Homo-modernus, seeing answers to all contemporary ills in modernism.^[19] Has he any reach at all beyond the biological life span that we are physically acquainted with? Is he the unhappy soul, afflicted with sin at the instant of his birth, sentenced to atone for this very sin every second of his worldly existence? Whatever definition many may have generated for themselves, it is the concept of "man" as used in Islam that we should be concerned with here.^[20]

In Islam's concept Man or Insān came into being on the planet Earth at the instant when Adam and Eve, after being led astray by Satan and going against a particular order of the Creator, became conscious of their bodily existence. Though other scriptures also relate this very moment there is a marked difference

in the narrative of the Qur'an as seen in the following verse :

"In the result they both
Ate of the tree, and so
Their nakedness appeared to them
They began to sew together, for their
Cover up leaves from the Garden..."[21]

This description encapsulates within it a very specific attribute of Man: someone who becomes conscious of a situation - in this instant his nakedness; then evaluates the relative merits of the situation, to decide on its desirability or otherwise - in this instant the rejection of nakedness as an unsuitable state to be in; and finally takes a corrective action to improve on the situation - in this instance weaving from leaves a form of covering to transpose his nakedness into one of being suitably covered. One should also add that the attempt at covering the nakedness as defined in this verse, does not imply any physiological purpose in its adoption. It is a moral decision aimed at the removal of physical nakedness of man from the field of vision of himself as well as others, and not for purposes of protection from the harsh rays of the sun or the biting cold of the wind.^[22] This first act of disobedience is also the moment of bursting into open the reality of Man's self-consciousness with the accompanying first act of free-choice, the act of freely choosing to remove his visible nakedness. This specific three stage process, whereby Man becomes:

- a- Conscious of a situation,
- b- Evaluates the suitability or acceptability of the situation to his sense of existence, and then
- c- Through wilful choice out of various alternatives, tries changing it to the better,

is ever present in man's nature. In essence this forms our thesis of how the environment is modified, and thus end up in an 'Islamic' or another environment.

Becoming conscious of a situation necessitates an ability to perceive and comprehend the implications inherent in that situation. It includes an awareness of physically visible as well as invisible but inherent developments that may accrue depending on various lines of action. This awareness encompasses the interactive nature of Man, bounded by his biological and psychological constitution, with the physical attributes of the natural environment within which he is obliged to exist. It is the preliminary stage through which one goes consciously or otherwise, in a quick mental calculation or through extensive probes into a given situation. Islam provides the parameters of this awareness.

Having become conscious, a process of evaluation ensues that demands the presence in the mind of a system of references as regards what is right and what is wrong, what is proper and improper, what is in one's self-interest, and what is in the public interest. Thus at this stage a decision has to be arrived at whether a perceived situation is desirable to be maintained as it is or whether to modify it so as to attain a different situation more conducive to the sense of values acceded to by the user. Islam provides a system of references in this regard too. Having come to a decision, a process is initiated which is calculated to result in a desired objective. It is a wilful choice made out of a number of alternative lines of action

available, either leading to a desired or a different situation. The choice may be concerned with the desired final situation as the end-product or with the processes that may arrive at the same end-product. Whatever the case may be a choice is made which may, or may not result in the situation sought. In any case a re-shaping of the built-environment will take place. The quality of the resultant built-environment can be presumed to be bound by the results of the evaluation, and the choices made as a consequence. Here again Islam provides the principles on which to make the choice. However the decision is left to Man as part of his examination on earth.

Islam will codify the act that agrees with its tenets as being "The modification of the environment and the reconstruction of the surface of earth so as to make it suitable for human habitation and sustenance of human life" and consider it as an integral part of one's responsibilities, as will be referred to later in the study.

C- KHILAFAT (TRUSTEESHIP) OF MAN

In stepping out of the world of heavens and into the physical reality of the universe on the planet earth, Man took upon himself a particular responsibility, defined in Qur'anic terminology as that of the Khilafat (Vicegerency/Trusteeship) of Allah on earth. Various references in the Qur'an to this particular responsibility provide an understanding of what it involves.^[23] It is the inheritance of earth as a responsible agent of the Creator. This concept of responsible agency, holds a very significant place in Islam's system of thought. It allows Man to

act within the Creator's defined order of things, but never against it. Man's presence on the planet Earth is of a temporary nature as part of the Creator's design. It is a place of examination for Man in the implementation of his vice-gerency. In this examination the degree of his abiding with the Order of the Creator as His vicegerent is to be monitored. As a necessary prerequisite of the examination he has been provided with a free will. Thus he will activate his vicegerency with his own free will and be judged in the degree that his actions are in conformity with the defined Order of the Creator.

D- MAN BEING MUKALLAF AND CREATION BEING MUSAKHKHAR TO HIM

Within the Creation, Man has his place amongst the physically visible world. In the system of belief of Islam there also exists a world invisible to human eye as part of the creation.^[24] Within the whole creation, visible or otherwise, Man has the distinction of being considered as Mukallaf (Under an Obligation). No other animate being is considered as such. Furthermore, this obligation is stated to be °Ubūdiyyah (Devotion and Obedience to Allah).^[25] This devotion is further defined in a terminological context as the "submission to the commands of Allah and His rasūl (messenger), solely because of being ordered to do so by Allah and His rasūl, without objection, argument or reciprocation".

In contrast to this obligation of Man, the rest of creation is considered to be Musakhkhar (in the service of - subordinate or subjugated or subservient to) him.^[26] This Musakhkhar attribute

of the rest of creation is to provide service and help to man so as to enable him to perform his Mukallafiyah (obligation) to the full.

It may be difficult initially for the unfamiliar to grasp, from the short statements above, the full implications of Insan being "Vicegerent" of Allah on Earth, or having been put under an "Obligation of Obedience and Devotion" whilst the rest of the Creation has been made "Subordinate" to him in order that he may carry out his Obligation. However, the body of Islamic doctrines does not leave any doubt in the mind as regards the distinct relationship established between Man and the universe (the natural environment starting with the soil from which Man has been created and on which he stands, extending all the way into the infinity of space) which becomes the environment for him to carry out his obligations to the Creator, as His responsible agent on earth. To enable Man to carry out this responsibility, he has been provided with all the knowledge he needs as well as a moral capacity to decide. (See Appendix One for further information regarding the aspect of Man's provision with total knowledge).

This particular concept of Man is what is asked to be born in mind when dealing with anything related to Islam. The extent of his supremacy in the universe which has been provided for his service as the vicegerent of the Creator, and the degree of his submission to the will of the Creator in utilizing the universe in obedience and devotion, cannot be removed from our consideration when dealing with his acts of shaping the built environment.

E- ENVIRONMENT AS UNDERSTOOD IN ISLAM

The interaction that takes place between Man and the rest of the creation has in Islam only one aim and one framework in which to take place. Though he is a distinct part of the universe and has a special position amongst the the rest due to his moral capacity, Man cannot remove from his field of concern the fact that the whole extent of the universe is in his service ONLY to perform his obligation to the Creator. In utilizing the resources of the universe for this purpose he is BOUND TO ACT as a responsible agent, and not as some one who decides on the whims of the moment and selfish personal ends. Furthermore he will account for his act at a future point at the court of the Creator in the Hereafter as the final act of his examination.

The Qur'an is very specific as to the nature of the universe. It is a teleological and therefore orderly cosmos, serving the purpose of its Creator, and doing so specifically because of having been designed as such. [27]

In this cosmos the will of the Creator is fulfilled with the necessity of orderly natural laws that He has prescribed for each and every thing, including Man in his physical and psychic functions. The exception in the case of Man is his spiritual function, his understanding and moral action which remain outside the realm of determined nature. In order for Man to practice his capacity for moral action, (and to implement creation's purposive nature) the creation is made mouldable, capable of transforming its substance, its make-up. Man's physical, psychic, and spiritual nature is not excluded from this capacity either.

We are thus presented with a purposeful universe, sustained by balancing all beings in it upon each other, and with a value centred framework for Man to implement his moral capacity within it, by reconstructing the surface of earth.

The world-view of Islam has a host of value centred concepts that applies to the whole area of existence of Man and regulates his approach as well as understanding of the total environment within which he moves. Having already referred to the creation of the nature as being teleological, orderly, and purposeful one can quote from Faruqi as to the other attributes of the natural environment in Islam.

[On a metaphysical level] nature is a realm, of ends where everything fulfills a purpose and thereby contributes to the prosperity and balance of all. ... "To everything" God says in the Qur'an, "We have given a measure proper to it". This is ecological balance which contemporary pollution of nature has brought to the consciousness of modern Man with alarming threat.

[On an ethical level], Islam teaches that nature was created as a theatre for man, a "field" in which to grow and prosper, to enjoy God's bounty and in doing so to prove oneself ethically worthy.

Firstly nature is not man's property but God's.

Second, the order of nature is subject to man who can bring to it such changes as he wills. Nature has been created malleable.

Third, in his usufruct and enjoyment of nature, man is enjoined to act morally.

Fourth, Islam demands of man to search for and understand the patterns of God in nature, not merely those which constitute the natural sciences, but equally those which constitute nature's general order and beauty. [28]

Gulzar Haidar, who has been concerned with the same topic as an academician, has a more 'architectonic' approach to the concept of environment in Islam. He generates a two-tiered approach in

order to define the Islamic position on environment and habitat. On the upper tier he postulates an ideal Islamic environment through the attributes of a "City of Islam". This city is a concrete expression of the belief and action structure of an ideal Islamic society. On the lower tier he proposes a set of design principles which can be used as tools by shapers of the built environment in order to attain proximity to the ideals of an Islamic environment. [29]

It has to be stated, however, that the general approach of these scholars towards the environment is based on, and limited to, asserting the relevance and applicability of a set of value-loaded concepts and terminologies as contained within the world-view of Islam. These concepts have yet to be made operational and translated into a definable set of rules or laws as applicable at present to the shaping effort of the built environment. This shortcoming is unfortunate as one comes across many quotations from earlier Muslim jurists who have defined in detail different aspects of the concerns, rights, obligations that human beings are placed under as regards the totality of the environment. The right to private property, limits on its use, the nature of public property, the duty to make islāh (establishment of well-being and prosperity) on land, or ihyā' (making life flourish) on the land are all well documented and awaiting their inclusion in a working theory of what "Environment" is and how man has to utilize it for the common good of all the present inhabitants of the universe, as well as preserving it for the later utilization of future inhabitants. [30]

F- THE PROPHET AS THE EXEMPLAR FOR PARTICIPANTS' INTERACTION WITH THE ELEMENTS OF THE BUILT ENVIRONMENT.

In interacting with the environment, as with all other things associated with his life, a Muslim does not only depend on revealed scripture to provide him with value centred concepts. There is an "Ideal" insān to emulate and this is no one else but Prophet Muhammed, may peace and blessing of Allah be upon him. He plays a unique and exemplary role in a believer's life based on extensive studies made of his life and actions. This aspect cannot be over-emphasized in its importance or significance.

Without going into a study of the Sunnah, the science of the prophetic tradition, and its implications on the topic at this particular point of the study, reference could be made to the observations of other scholars. Titus Burckhardt, the Swiss art historian whose works were reviewed earlier, identifies this role in relation to the homogeneity of forms of a town's constituent elements as follows:

...This homogeneity is none other than the architectural expression of tradition, of the Sunnah of the Prophet adopted to regional conditions. It is by determining the most simple and the most ordinary of human activities, such as how to wash, to sit on the ground, to eat together around a single platter, to behave in the family and towards the stranger, that the Sunnah indirectly fashions clothing, the home and the town. ...It is this which gives Muslim town-planning in its most general form its both realist and spiritual character; it responds to material requirements but never treats them apart from exigencies of a higher order, and this distinguishes it essentially from modern town-planning, which tends to dissociate man's bodily, psyche and spiritual needs and cannot, moreover, do otherwise, since it has no guiding principle to which to refer to bring these different domains together. [31]

Thus the example of the Messenger of Allah becomes the norm and guide that adjusts and regulates the behaviour of each and every

individual in an Islamic society.

It is interesting to come across in the studies of other scholars who have not been dealing with the subject of Islam as such, observations that come very near to the concepts identified above. One such person is a leading anthropologist of America, Professor Clifford Geertz of Chicago University. In dealing with the impact of the concept of culture on the concept of man, he poses the question, "What is man?" and goes through an analysis of how the view of human nature, dominant in the Enlightenment, was overthrown trying to reach "a more viable concept of man". He speaks of the need to:

...replace the "stratigraphic" conception of the relations between the various aspects of human existence with a synthetic one; that is, one in which biological, psychological, sociological, and cultural factors can be treated as variables within unitary systems of analysis.[32]

His aim is to reach "an exacter image of man" and puts forward two propositions:

The first of these is that culture is best seen not as complexes of concrete behaviour patterns - customs, usages, traditions, habit clusters - as has, by and large, been the case up to now, but as a set of control mechanisms - plans, recipes, rules, instructions (what computer engineers call "programs") - for the governing of behaviour. The second is that man is precisely the animal most desperately dependent upon such extra-genetic, outside-the-skin control mechanisms, such cultural programs, for ordering his behaviour.[33]

This is precisely the role played by the Sunnah of the Prophet Muhammad in the lives of Muslims as observed in the quotation from Burckhardt above. The uniformity perceived within the variety found in the traditional environments of Muslims is the result of the general adoption of such "prophetic control mechanisms".

iii- CONCEPTUAL BASIS OF "ARCHITECTURE"

Having defined above the concept of Man in Islam and understood the essence of his existence on earth within the framework of his ‘Ubūdiyyah, it will be impossible to associate him with certain concerns and concepts that have their roots in other systems of thought and world-views.

One of these concepts that is also central to our topic is associated with the professional title of 'Architect' and the discipline with which he is associated, that of 'Architecture'. In the supposedly neutral world of technical terms there also exist conceptual conflicts associated with various terminologies that one has to be clearly aware of. Similar to our earlier definitions of man, the built environment and their interaction, the terms of 'architect' and 'architecture' have to be clarified.

Western sciences have utilized countless words of Ancient Greek. The use of Greek terminology in scientific matters is one of the most visible symbols of the role or hold that classical Greek culture has on western civilization. It is yet another strong evidence of the penetration of the value system and world vision of Ancient Greece into the system of western thought. What is accepted in the West as the high point of this culture (5th. Century B.C.) with Plato (428-347), and Socrates (470-399) on one hand or Callicrates (470-410) and Ictinus (465-415) on the other, is actually a kind of water mark within that part of the ancient world whereby transcendental considerations are rejected in favour of materialistic and individualistic ones.

For example one of their earlier thinkers, Heraclitus, was proclaiming in 6th. century B.C. Greece that all things were actually one and the law was to follow the will of this "One". According to him wisdom consisted of a single thing, namely to know the thought which governs and orders everything. However, a little later conflicts and competition between cities, and citizens of these cities, would cause man to lose sight of a Divine unity. It would become fashionable to deny any absolute point of authority, and assume man's self sufficiency... The first philosophers of the West, the Sophists of Athens were the ones to formulate this new morality. Protagoras of Abdera (480-410) in his main philosophical work entitled Truth, codified his two famous maxims, one dealing with the relativity of knowledge, and the other on the impossibility of proving divine existence. [34]

The incorporation of Greek philosophy within the western intellectual and religious thought and its resulting contradictions [35] is one of the baffling attributes of rationality. The consequences of this adoption were to be suffered by Muslims and Judaism as well. [36]

However, the point which ought to be stressed here is the unconscious presence of the concepts of the world vision of the mother culture within the terminologies adopted from its language. Thus by adopting its terminologies from Greek, knowingly or otherwise, the West allowed a lot of the value system and world vision of Ancient Greece to penetrate into the conceptual composition of these terms and their application in modern times.

Let us see this fact in the particular case of the terms "Architect" and "Architecture". These words are built up from two root words, ARCHI and TECTON. The first implies being chief, principal, superior, master; and the second implies a skill, technique, science, craft. The Oxford Dictionary gives the following meanings to the word ARCHITECT and ARCHITECTURE.

ARCHITECT:

1. A master-Builder, spec. A skilled professor of the art of building, whose business it is to prepare the plans of edifices, and exercise a general superintendence over the course of their erection.

1854, Ruskin Lect. Archit. Add. 113 "No person who is not a great sculptor or painter can be an architect. If he is not a sculptor or painter, he can only be a builder"

2. One who designs and frames any complex structures; esp. the Creator...

3. One who so plans, devises, contrives, or constructs, as to achieve a desired result (especially when the result may be viewed figuratively as an edifice); a builder-up.

1873 Burton Hist. Scot. I ix. 298 "The Architect of his own fortunes".

ARCHITECTURE:

1. The art or science of building or constructing edifices of any kind for human use. Regarded in this wide application, Architecture is divided into Civil, ecclesiastical... But Architecture is sometimes regarded solely as a fine art, and then has the narrow meaning explained in quotes. below..

1879 G. Scott Lect. Archit. II 292 " Architecture, as distinguished from mere building, is the decoration of construction".

4. The special method or 'style' in accordance with the details of the structure and ornamentation of a building are arranged.

1853 Ruskin Stones Ven. II. vi, "Many other architectures besides Gothic." [37]

The concept outlined in these meanings associates the words with an edifice, a building, over the design of which mastery has been

achieved. In other words, the material aspects and the products of human effort are emphasized. This culminates in the idolatrous veneration and worship of man's effort and his product. A cursory look at Greek culture will show how much it is centred on products of man. One end result is the deification of physical fitness and the personification of their many immoral gods in idolized athletic human forms. [38] This is why in one respect "Architecture" is looked upon as the Master Craft, and the "Architect" as the Master Craftsman, leading of course to the end-product, the Master-Piece! Whether this is experienced in the Parthenon of Classical Greece together with the sculptures that decorate its pediment, Arc-de-Triumph of Paris, or in Capitol Hill of Washington, the concept and of course the aim is always the same: an unending concern with form, so as to achieve the biggest, the most spectacular, the only one of its kind. [39]

This specific meaning associated with the two words has acquired such a powerful domination that it has superimposed itself onto other languages that has a completely different conceptual basis to its built environment than the one presented.

iv- CONCEPTUAL BASIS OF AL-°IMĀRAH

The same liaison with the origin of a term and value system of a way of life exists in the Muslim world too. Similar to the importance that the western world has accorded to Ancient Greek, the Muslim world chose the language of the Qur'an to use as the source of its own scientific terminology. This choice also had the assurance that the value system and world vision of Qur'an

would be incorporated in the terms, and not the fallacious misconceptions emanating from misguided individuals and societies.

Be it Arabic, Turkish, Persian, Urdu or any other language that they use in their daily life stretching from Eastern Turkestan in China to Bosna-Herzegovina in Yugoslavia, Muslims share (or used to share) the same basic as well as scientific terms. This uniformity has been considerably weakened under the onslaught of western technological and ideological hegemony. Despite this onslaught the same terms, derived from Arabic, are used in conjunction with the shaping of the environment. "Umrān," "Mi^cmāri," "Imārah" and a host of related words are the same all over the Muslim world. The trilateral root from which these terms are built from, is Umr and is associated with the English word "Life" as well as the activity of reconstruction/building. Thus the meanings of the range of words derived are associated with both "Building activity" as well as "Making alive, filling with desirable people and desirable activity"^[40] such as:

Amara (To cultivate, to make habitable);

Ammara (To cause to live);

Ista^cmara (To settle any one so as to make the land inhabited, thrive and be reconstructed);

Al-Imārah (Opposite of Kharab [Ruining and destruction])

Ma^cmūr (Flourishing, prosperous; cultivating, inhabited)

Various derivatives of the root word are also used in different verses of the Qur'an enhancing and defining further their meaning. For example the Holy precinct around Ka^caba is referred to as Bayt al Ma^cmūr in the Qur'an.^[41]

What a difference this makes in the world of concept generation and idea formation when compared with the word "Architecture" presented before.

We can therefore give an expanded definition to the words that will be the basic terms with which we shall be working.

MI‘MĀRI is that "professional person who looks upon his vocation as the shaping of the surface of earth in such a way that it becomes a better place for the sustenance and well-being of human life and for the °ibadah of Man". Similarly,

°IMĀRAH is the "activity of shaping the surface of earth as a fitting place for the sustenance and prosperity of human life and for the °Ibadah of Man".

°UMRĀN would than be the "art/science of people co-operating together for the common good of all so as to shape the surface of earth physically as well as institutionally, in order to make it more suitable than before for the sustenance and well being of human life and for Man to implement his °Ubūdiyyah". [42]

It is interesting that such an organic link between "life" and the built environment has not escaped the notice of western thinkers either. Most prominent amongst these is William Morris (1834 - 1896) who is looked upon as being associated with the birth of the Modern Movement by no less a figure than historian Leonardo Benevolo. [43] In a speech that he gave in 1881, Morris identifies this link very clearly in the following phrase:

Architecture embraces the consideration of the whole external surroundings of the life of man; we cannot escape from it if we would so long as we are part of civilization, for it means a moulding and altering to human needs of the very face of the earth itself, except in the outermost desert. [44]

However, these instances have not had the effective power to supplant the dominant meaning embodied in "Architecture" as a term, a meaning supported and corroborated by other sympathetic concepts within the mother culture.

Having defined man, his obligation towards the Almighty Creator, the subordinate role of the universe in relation to insan, the shaping of the surface of earth to suit sustenance of human life in all its facets as being "Imārah", and the building of magnificent edifices being "Architecture", one thing will be very obvious. The term "Islamic Architecture" will sound a very dubious and incongruous term indeed.

The prevalent concepts of what "Islamic Architecture" is are all based on considerations that do not find any echo in Islam as a way of life and as a system of belief. It can not be just the skill/knowledge content of "conservation and Restoration of Historic Buildings and environments of Muslims."

If what is meant by this term, as is often the case, that body of knowledge, specifically of an historical/archaeological character, related to heroic monuments of past ages when Islam was a dominant order in the world, be they palaces, mosques or mausoleums, it will be challenged by the very system of Islam which negates and deprecates any undue concern with forms, objects,

edifices. To be terminologically correct this can be called the "Architecture" of Muslims, but the adjective of "Islamic" cannot be prefixed, nor can the products thus referred to be called ‘Imārah.

Neither can it be used synonymously with the term "Muslim Architecture" as this definition denies any association with the system of belief and looks upon buildings only in their utility value, to accommodate various Muslim habits and activities. In this view "Architecture" becomes "Muslim" only by being associated with Muslims in name, and does not consider this association to carry any critical value such as that accorded to geographical and cultural norms. This view unfortunately is the one most extensively resorted to, aiming at the fragmentation of the unity of Muslim culture.

Nor can any "Architecture" become "Islamic" by being strengthened with some socio-technical considerations such as "Privacy in Islam," "Courtyard Housing," "Building in Adobe" or "Royal Mosques of Islam"...

If it is "Islam" that we want to have as our term of reference and framework in which to operate, then we cannot ignore certain facts. Foremost among these is the principle that Islam is not satisfied with superficial association, and demands from its adherents to submit to it absolutely as a system of belief as well as a way of life. This submission is total and unconditional. As it was stated earlier such a submission is effected by executing commands of the Creator and His last Messenger, solely

because of being ordered to do so by Allah and His Rasūl. That one can comprehend by way of reason why such commands should be implemented is of secondary importance as the believer is committed to their execution whether he rationally comprehends the reason or not, without an objection, an argument, or reciprocation. [45]

v. - AL-°IMARAH AS A DISCIPLINE

Having defined earlier in the chapter, it will be clear that "°Imārah", with or without the added adjective of "al-Islamiyyah" (Islamic), is nothing but the application and appearance of the system of belief of Islam in all its totality, on the shaping of the built environment...

It will be a very big blemish on the integrity of any scholar and compromise the scientific worthiness of his study if he keeps quiet or remain ignorant of the full implications of Islam, of Man as defined in Islam, of °Umrān, as defined by the sources of the system itself, namely the Qur'an, the Sunnah, Ijmā° (The consensus of the companions of the Prophet) and Qiyas (Deductive analogy). [46] The result of this ignorance will be imprisonment of Islam within the material limits of brick and mortar, or physical forms of domes and arches, or the intricate details of geometric patterns...

We have therefore to state categorically, so as to remove any vestiges of doubt as to what °Imārah is, and what it is not...It is neither an inventory of past remnants from magnificent royal

life styles of ruling monarchs in Muslim lands, nor a directory of decorative elements that can be used to "Islamize" facades of glory-seeking designers. ‘Imārah is that particular activity of giving shape to the man-made environment so as to make it better than before for the sustenance of human life, remove the difficulties and pains in the way of his performance of ‘Ubūdiyyah (devotion to the Creator) and provide for its further prosperity. This can only be done through application of the codes and injunctions contained within Islam pertaining to built environment in all areas of man's existence.

For our purpose we will identify four general areas within which Man carries out his existence. These are:

- The area of ideological commitment or belief,
- The area of socio/biological needs,
- The area of psychological considerations, and
- The area of material existence.[47]

The shaping of the environment in any age, by any group of people can be looked upon as a system of conscious and concerned decisions directed towards generating a change in such a way that it:

- accords with the inherent physical properties of matter, remaining within the bounds of these properties, [48]
- answer the socio/biological needs, still remaining within the bounds of social and biological sciences and their requirements,
- remains cognizant and responsive to the psychological considerations that Insan finds himself in, again without trespassing the laws of this area.

What is left out in the previous statement is the area of ideological commitment. If the choices that are open to Insan in the three fields are considered from the ideological point of view

of Islam than the resultant statement will be "Islamic." But if the choice is made according to the ideas, thoughts, theories of say Alberti or Vitruvius, then the resultant statement will be both "Architecture" and also carry the adjective of "Renaissance". Similarly, any change in the field of ideological commitment will effect the adjective with which that particular "Architecture" will be known by.

In Al-^oImārah, when dealing with the materials and handling its technology; when responding to the socio/biological needs of human life and preparing building programmes and plan typologies suitable for these needs; when defining forms and textures and colours that are expressive and reflective of the psychological needs and attitudes of a Mu'min (believer), Islam becomes the authoritative ideology. By becoming so the resonance of its cosmology, its proclaimed canonical order which encompass the moulding of the totality of form, will indeed leave an imprint on the environment, identifying it as Al-^oImārah. It will also distinguish its Imārah from the rest of the "Architecture" that will remain outside its boundaries.

Here arises the first point of clear differentiation and the goal to pursue as regards Al-^oImārah. By it will be meant an independent, clear-cut discipline, dealing with the shaping of the environment as a suitable place for the sustenance and prosperity of human life and for the ‘Ibādah of Man. In order to differentiate it from other disciplines the term Al-^oImārah will be used in preference to the popularized misnomer one of "Islamic architecture".

Based on the corpus of Islamic injunctions, a theoretical framework has to be put together that clearly identifies the system of values as well as prescriptive rules as regards the choices open to man in the three areas of existence mentioned above. This will be the basis of establishing a foundation theory for the independent discipline that Al-°Imārah is considered to be from now on in this study. Such a theory has yet to be developed and provides a virgin area of research as well as having a very important basic role to play in any education activity dealing with Al-°Imārah. [49]

vi.- TOWARDS MAKING OF A THEORY OF AL-°IMĀRAH

There are a number of healthy indicators that a theory is in the making, encouraged by the confusion that the Modernist versus Post-Modernist debate has fanned as regards theories on architecture. This assertion should be made with humility, bearing in mind the minuteness of the indicators, but also with conviction as to the necessity to develop a theory that brings into full view the reality of "man", the shaper of an environment, as a result of whose efforts life can be sustained and can flourish upon earth. This "wholeness" of the single individual with and within the universal physical reality as a "place", and the succession of the sequences of "time" that, despite becoming a past moment immediately that it is lived, always extends up to an eternal end past the dividing line between the world and the Hereafter, is the framework within which such a theory has to develop.

A- TAWHĪD AND TRANSCENDENCE

A prolific writer on matters Islamic, who also took Islamic art and aesthetics within his area of interest was the late Dr. Isma'īl Rājī al Fārūqī.^[50] As a scholar of Islamic sciences rather than Art Dr. Faruqi took a more theoretical/ theological view of the subject. One of his important contributions to the topic was his identification of a key element, that of Tawhīd (unization of God, the act of affirming Allah to be the One, the absolute, transcendent Creator, the Lord and Master of all that is), as the major parameter within which to work in developing a particular theory and still remain within the realm of Islamic thought. The concept of Tawhīd is considered as the foundation stone of Islam and embodied in the Shahadah, the code of assertion of one's faith in Islam. It is a significant assertion that starts with a negative statement, a denial: "There is no god but Allah". His major book on the subject contains the main elements of this view.^[51]

Tawhīd is that which gives Islamic civilization its identity, which binds all constituents together and thus makes of them an integral, organic body which we call civilization. In binding disparate elements together, the essence of civilization - in this case tawhīd - impresses them by its own mould. It recasts them so as to harmonize with and mutually support other elements. Without necessarily changing their natures, the essence transforms the elements making up a civilization, giving them their new character as constitutive of that civilization. The degree of transformation may vary from slight to radical. It is slight when it affects their form, and radical when it affects their

function: for it is the latter that constitutes their relevance to the essence. That is why the Muslims developed the science of 'ilm at-tawhīd and subsumed under it the disciplines of logic, epistemology, metaphysics and ethics.[52]

Dr. Faruqi, referring to the Qur'anic verse (17:43) "...Praised be He, the Transcendent Who greatly transcends all claims and reports about Him", points out how, in fulfilment of this view, the Muslims have been all too careful never to associate in any manner possible, any image or thing with the presence of the Divine; and in their speech and writing about the Divine use nothing but Qur'anic language, terms and expressions which were used by Allah about Himself in the Qur'anic revelation.

All the arts of Islam developed in fulfilment of Divine transcendence acting as the supreme principle of aesthetics. All Islamic arts developed stylization as denaturalization; and all did their genius-best to trans-substantiate the natural forces of gravity and cohesion, the natural elements of mass, space and light, of water and colour, of melody and rhythm, of physiognomy and perspective - in short of everything natural or creaturely, into floating, air suspended patterns suggestive of infinity.[53]

Adopting the definition of art as "the process of discovering within nature that meta-natural essence and representing it in visible form", Faruqi concludes that art is not the imitation of created nature; nor the sensory representation of natura naturata, the objects whose "naturing" or natural reality is complete. Art is the "reading in nature of an essence that is non-nature,

and the giving to that essence the visible form that is proper to it". That which is non-nature could only be transcendent and only that which is Divine can qualify for this status.

However, the Muslim artist, working in whatever medium or discipline that he was involved with, having defined his acceptance of tawhīd by stating that "There is no god but Allah", is also convinced that nothing in nature may represent or express Allah. Thus he was, in a way, forcefully directed towards stylizing everything of nature in representation and in so doing removing it from the nature as far as possible.

From this point on, the theoretical substance of the argument becomes difficult to comprehend when related to "architecture". Another scholar, Professor Nasr takes the argument a stage further in physical terms but is still very much removed from a conclusive statement.

In contrast to Christianity, where the manifestation of the Spirit is identified always with an affirmation and a positive form, Islamic art makes use of the 'negative' or the 'void' itself in a spiritual and positive sense in the same way that metaphysically the first part of the shahadah begins with a negation to affirm the vacuity of things vis-a-vis Allah. Space in Islamic architecture and city-planning is not space around object or determined by that object. Rather, it is the negative space cut out from material forms as for example in traditional bazaars when one walks through a bazaar one walks through a continuous space determined by the inner surface of the wall surrounding it, and not by some object in the middle of it.[54]

The significance of Tawhīd in building a theoretical basis seems critical and demands an intellectual as well as a scholarly effort after having acquired the necessary tools in Islamic as well as environmental sciences.

For the purpose of this study, its implication is seen in two planes. The first one in building up the theoretical basis that would become the formative line of thought to be utilized in the process of design, and the second one in its relevance to the conceptual structure of the teaching model that would be devised. The first part is beyond the scope of this study. However, the second part does relate directly to the central purpose of the study and its integral incorporation within the structure of the model will be attempted in building it up.

B- THE URBAN DIMENSION

One other positive and encouraging development along the process of generating a theoretical basis for an independent discipline has been a recent publication by Besim Selim Hakim. In his Arabic-Islamic Cities, Building and Planning Principles [55] Hakim puts together a number of his findings from a study he carried out in the Maghrib Region of the Muslim lands, specifically in Tunis. For example he lists a number of principles and guidelines representing the core of the building principles and guide lines of the Maliki School. In the excerpt below, each principle is cross referenced with the Qur'anic verse (V) and/or saying of the Prophet (S) that he enumerates in an appendix, showing how a whole system of principles based on behavioural guidelines was developed from the principal sources of Islam. Because of its significance these verses and sayings will also be given together with the Notes.

HARM V:6,18,19;S;34,35. The essence is that one should exercise one's full rights in what is rightfully his providing the decision/ action will not generate harm to others.

INTERDEPENDENCE. V:1,2,4,5;S:7,8,12,14,15,33,39,40,42,44,45. This principle reinforces our contemporary knowledge of the science of ecology and values emanating from it. A framework based on this principle is crucial for generating building 'solutions' to the special requirements of the built-form prevalent in Islamic cities. Note that Verse 5 prescribes the policing of this principle by encouraging self-regulatory behaviour. It is one of the pillars of the Islamic Hisbah institution.

PRIVACY. V:13,14,15,16; S:29,30,31,32. In physical terms it refers to personal clothing and the private domain of the home. It also refers to the privacy of communication. The privacy of others must be respected and its invasion is prohibited, such as via direct visual corridors into the private domain of others. The Qur'an prescribes various behaviour patterns including those designed to respect the privacy of others, such as the manner of announcing one's presence to the occupants of a house, and others.[56]

Later on Hakim develops a list of urban and architectural elements with which a design language was developed and implemented in different parts of the Muslim world with a remarkable degree of congruity between them. For example the house is considered as the eighteenth element in this list (no importance in numerical position) as follows:

18 DAR. The term denotes a dwelling place or a house. The two most commonly used terms for a dwelling are BAYT and DAR, The proper meaning of the term Bayt is the covered shelter where one may spend the night...

The concept of a house planned around an open space or courtyard appeared in the Middle East with the earliest cities there; a prime example is the city of Ur in southern Iraq. Symbolically, however, the first Islamic house is that built by the Prophet Muhammad on his arrival in Medina, as a dwelling place for himself and his family, and as a meeting place for the believers. The courtyard surrounded by walls is its essential feature...

In essence the courtyard house and its clustering creates the physical setting that allows the following Islamic social and ethical requirements to be achieved:

- (a) PRIVACY. The layout ensures visual privacy from outside or adjacent areas, yet allows members of the household to be in contact with nature via the court; the plan also ensures a high standard of acoustical protection.
- (b) INTERDEPENDENCE. The organizational consequences of grouping of courtyard houses necessitates a level of inter-

dependence between neighbours with regard to the use and rights of party walls, maintenance of cul-de-sacs, problems related to rain and waste water. This interdependence is compatible with Islamic values as they relate to neighbourly relations.

(c) BATIN vs. ZAHIR. One of the essential values in Islam is emphasis on the BATIN (the inner aspect of self or a thing), and subordination of the ZAHIR (the external aspect of self or a thing). For example, internal goodness and well-being are emphasized and arrogance discouraged. The courtyard house and its aggregate organizational pattern is suitable for the application of this principle. Hence we find that the external walls are kept simple and relatively bare with a few openings. The courtyard as the central important space is decorated - when the owner can afford it - to a high level of artistic sophistication, despite the fact that it is accessible to and enjoyed only by the occupants, and occasionally their relatives and close friends. [57]

Though other works are known to be in progress at various centres of learning nothing as yet have emerged in published form for consideration.

C- WESTERN DEVELOPMENTS IN ARCHITECTURAL THEORY

In order to put the picture into correct focus and not to feel disheartened about the lack of concrete, tangible evidence as yet along the line of Al-Imārah's theoretical development, the situation within western scholarship can be briefly looked at. To follow along the line of Professor Nasr's argument where he proposed a positive role to negative spaces one can look at the way "space" has been handled in western scholarship.

Of late a number of theorists and practising architects have been looking upon architectural space as an autonomous artifact. Aldo Rossi's work on the vernacular architecture of Ticino, Hillier and Leaman's work on the syntax of architectural space, March and Steadman's work on the three houses of Frank Lloyd Wright are all

endeavours to formulate compositional rules for the definition of architectural space. Other practising architects like Venturi and Rauch have been designing buildings postulating that spatial forms have expressive content. There are of course critical objections to such notions of meaning in architecture as exemplified in the writings of Colloquhoun. As a cursory review of the scene two possible landmarks in the range of modern attempts at defining the role of "space" in "architectural theory" will be looked at here.

Sigfried Giedion, the scribe and resident historian of CIAM, and one of the most effective proponents of the Modern Movement, took up the issue in his Space Time and Architecture, first published in 1941 and reprinted many many times in later years. He put the problem of space at the centre of the development of modern architecture, presenting the history of architecture as a succession of 'space conceptions'. He identified three such basic conceptions.

...During the first stage - the first conception - space was brought into being by the interplay between volumes. This stage encompassed the architecture of Egypt, Sumer, and Greece. Interior space was disregarded.

The second space, conception began in the midst of the Roman period when interior space and with it the vaulting problem started to become the highest aim of architecture. [With] the Roman Pantheon... the formation of interior space became synonymous with hollowed-out interior space...

The third space conception set in at the beginning of this century with the optical revolution that abolished the single viewpoint of perspective... New elements have been introduced: a hitherto unknown interpenetration of inner and outer space and an interpenetration of different levels (largely an effect of the automobile), which has forced the incorporation of movement as an inseparable element of architecture.[58]

Giedion's views were found to be "too naively realistic" and lack "philosophical clarity" by another theoretician, Christian Norberg-Schulz.^[59] He himself originally maintained that the space concept was of limited importance in architectural theory, and concluded in 1963 that "there is no reason to let the word 'space' designate anything but the tri-dimensionality of any building."^[60]

However, in a matter of eight years a change takes place in his views and Norberg-Schulz, having re-evaluated the space in its "existential" dimension, places it upon a pedestal to hold the "central position it ought to have in architectural theory".^[61]

Of course such a momentous volte-face would not happen without substantial study. Norberg-Schulz would meticulously review different concepts of space proposed by others, and find all of them lacking. He would finally hit on the key construct, the "existential Space". This concept would be aided and abetted by four others which are stated to be :

The Pragmatic Space of Physical action;
The Perceptual Space of immediate orientation;
The Existential Space, the key construct;
The Cognitive Space of the Physical World; and
The Abstract space of pure logical relations.^[62]

One thing is very noticeable in looking through different writer's proposals, which are in clear contrast to attempts reviewed earlier. In the particular case of trying to develop a theoretical basis, Muslim writers start from a fixed platform as their reference. This platform is placed squarely upon the principal sources of Islam itself. Proposals would stand up or

fall in reference to the injunctions embodied in these principal sources.

In the case of western writers there is a tendency towards self-centering and dogmatizing. What in fact is a single theoretician's own idiosyncratic view, and as such having all the deficiencies and distortions in-built in his "nature" once becoming freed from being moored to a moral/ethical/ideological system of thought, is proposed to be the universal view for all people and times to come. This also is the cause and effect of the multitude of conflicting, contradicting, recanting views advanced as architectural thought in the West.

The self-centering may be as overtly clear as in the case of Christian Norberg-Schulz or unconsciously present within the humble wordings as found in the opening statement of the preface to "A Modern Theory of Architecture" by Bruce Allsopp. The statement that "...there seems to be a need for a way of thinking about 'architecture', past and present which is tuned to the conditions of our time."^[63] camouflages the intent of Bruce Allsopp to install his own thinking as THE ONE tuned to the conditions of our time and as such proposed for acceptance by the masses as their universal thought too!

In such a situation there is justified hope that if concerted action is taken a theory can be developed that will remain within the epistemology of Islam, thus outside any personal/individual thinking that becomes dated the moment it is uttered, and thus have a stronger case to be considered as a viable universal

proposition.

D- PARAMETERS FOR A THEORY

1. The Tawhīd (Unity) in the Discipline.

In the earlier part of the chapter when stressing the conceptual and terminological substance of the discipline of Al-°Imārah, an implied position was also taken as regards the fragmentation of the disciplines within the western epistemology. "Town Planning", be it in its "Urban", "Regional" or "Rural" varieties, "Landscape" as another whittled down entity from the field of concern of "Architecture" after having been horticulturally dressed up, or "Interior Design" as a luxurious play thing of rich patrons, are considered as being contrary to the concept of Al-°Imārah in being refracted into separate "wholes" at the bottom of a separate bore hole! The tendency towards such a refraction (independence rather than interdependence) is part of the present culture. [64]

Thus Al-°Imārah is posed as THE Discipline encompassing the totality of Man's effort in shaping/reconstructing the surface of earth. Having established this basis as being of fundamental importance, one can proceed further and develop related specializations in many aspects of the totality as long as they are built upon the basic foundation of Al °Imārah. Any aspect of the "technical" content that this totality holds must not be divorced from the primary perspective of the whole, nor should it be deprived of the sustenance to its meaningful development in the service of "Man" by retaining its organic links with the whole.

2. The Tawhīd (Unity) in Life

As a corollary to the previous position a very distinct attitude should be defined in reference to Man's life. One of the classification that western scholars subject the built-environment to is its division into categories of the sacred and the secular.

This very notion has to be meticulously removed with all its traces from consideration. The posit of "Secular" as a valid and opposite category to "Sacred" is anathema to the system of thought of Islam. The presence of the "Sacred" in all forms within the built-environment would be demanded by the system.

The origin of this division goes back to the philosophies expounded by seventeenth century thinkers in Europe, whose "humanism" divided the world of knowledge into Scientific (secular) truths, and Religious (sacred) truths. Scientific truths were glorified and deified whilst religious truths made subject to doubt. Theories related to the built form based upon this division helped to generate other distorted, albeit scientific, side-truths and be influenced in turn by them. Notice the role of the press (architectural magazines), advertising, and social policies and politics in their disparate effects on the shaping of theories of Post-Modern architecture. Design disciplines have not escaped the malaise, generating within their thinking a schizophrenic divide of their world into the domains of Art and Applied Science. The first is relegated to the arena of sensual rules that need not have any rational basis and the second made to turn its back on the need to prove its relevance to the emotional, sensual as well as actual needs of Man. In this way life has been

dissected into the sacred and profane domains to the loss of Man and the quality of his environment.

In developing a theory of Al-°Imārah the unity of life as a sacred domain must be re-established and maintained in every sphere of human activity.

3. The Centrality and Pre-eminence of Human Life

The definition given for Al-°Imārah shows clearly that shaping of the surface of earth has one specific aim - to make it a more suitable place for the sustenance and well being of human life and in doing so make it easier for Man to implement his °Ubūdiyyah. Human life in its individual as well as communal composition, in its spiritual, emotional as well as material dimension would then be the constant element in any formula generated in the process of shaping the surface of earth. The communal composition would not be taken as a negation of the individual to be sacrificed at the altar of humanity en masse but as a community of individuals having its worth because of being so. No theory can ignore this constant and still retain any semblance of human relevance. No theory can reduce the role of the individual or the community to a solely physical materialistic entity of empiric consideration and expect to be given the accolade of acceptance by society. No theory can presume or assign the role of deciding what is good for the individual, or a community, to groups of self-interested, self motivated professionals, be they civil servants, planners, social scientists, or others.

In such a theory there will not be any room to presume that because everything "designed nowadays serves masses and not individuals...therefore our style be one adapted to mass production, not only in the sense of production in masses but also for masses...", nor could there be an acknowledgement "...that this new style often looks rather forbidding and seem to lack human warmth", and welcome it because "the same [is] true of contemporary life."^[65]

4. The Re-infusion of Formative Key Concepts into the Built-Environment.

Finally the aspect of Islamic values or concepts and their implications will be touched upon in building a theory of Al-‘Imārah. The aim here is to select those significant concepts that make up the world-view of Islam which seem to relate directly to the concern area. These should be developed in their contemporary relevance and made operational turning them into a fully-fledged theory. Though only two will be selected for illustration of how rich an area this could be for generating data for a theory one should note that these concepts are applicable to a whole range of disciplines. Thus reaching an understanding of one in one field could lead to an understanding of another and thus lead to the development of practical models.

The first concept that will be proposed here as being very significant and of primary importance is Hayā’ (Modesty). It has the connotations of modesty, shyness, bashfulness, a sense of shame, diffidence, decency, decorum contained within it, as opposed to shamelessness, immoral, indecent, exhibitionism, arrogance and so

on. There are a number of Hadiths relating to the central role of Hayā' in Islamic behaviour. Some of these are:

"Hayā' is part of Iman".

"When Allah wishes to destroy a people He takes away their sense of Hayā'".

"Every nation has a distinguishing characteristic and the characteristic of Islam is Hayā' (Modesty)".

Obviously this term has major implications for the concern area of fine arts as well as the shaping of the built environment. It would directly shape an attitude in the owner, as well as the shaper as regards ostentatious building, the reprehensibility of anything vulgar, and so on.

The second one deals with aesthetics, or more precisely with the notion of beauty, that of Jamal. "Allah is Beautiful and loves beauty" is another famous hadith of the Prophet May peace and blessings of Allah be upon him.^[66] The culture of Islam regards beauty as the value on which hangs the whole validity of Islam itself as exemplified by the sublime beauty of the Qur'an. An enormous amount of literature has been accumulated by Muslim thinkers and scholars where the sublime beauty of the Qur'an is declared as the proof of its Divine ownership. This quality of the Qur'an is known as its I'jāz and is a cultural phenomenon of tremendous importance. It is universal, addressed to all humans in all ages capable of being recognized and appreciated by anyone. It has affected the aesthetic consciousness of Muslims in all fields spilling into the visual as well as the aural. But the decadence of the popular culture that Muslims are afflicted with at present complicates the issue. What precisely is this

"beauty"? What are its defining characteristics? How is it achieved in different mediums? These are but some of the basic questions that come to the mind as requiring detailed inquiry and inclusion in a theory of Al-‘Imārah.

viii- EPISTEMOLOGY AND EDUCATIONAL THEORY IN ISLAM

In developing an institution of learning identified with a distinct system of thought and a way of life, one has to start with a statement as to how this system charts its epistemology and defines its educational theory.

The need for such an identification may not be apparent at first sight for those who, having been brought up in the congruent world of a particular world-view and its epistemology, take it for granted that there is one universally valid epistemology current in the world, namely one that guides and promotes the western endeavours.^[67] Once one speaks of a different world-view, then there must also be a different classification and attitude to knowledge within which this world view develops and a relevant educational theory emerges. These then become the parameters within which any scientific methodology has to develop in order to be associated with the particular world-view.

As far as Al-‘Imārah is concerned, Islam's own epistemology and educational theory has to be defined. At present there may not exist a definitive statement that bounds the world community of Muslims regarding the details of these two areas, though the Islamic heritage abounds in detailed and extensive consideration

of the matter. Only of late have the present generation of thinkers in the Muslim world come to realize that talking of Islamics in absence of a clear definition as to the classification of knowledge would presume the currency of the western epistemology, and thus compromise the relevance or validity of anything presumed as "islamic". There is an increasing consciousness amongst the Muslim intelligentsia that Islamic epistemology is the only grid board or platform upon which any Islamic entity, be it a discipline or the totality of its civilization can be constructed.^[68] It is somewhat puzzling that only recently such an awareness started to emerge knowing that Muslim scholars of the past were always concerned with epistemology and many a treatise exists with a considerable number of studies made of these by western scholars.^[69]

Instead of trying to review different approaches and attempting to identify a viable and comprehensive system of classification in an area that requires a depth of knowledge and scholarship much beyond the limits of the author, one particular scholar's view will be adopted for the purpose of this study as will be found in Appendix One.

NOTES ON CHAPTER SIX

- 1 A classic example of this phenomenon can be found in Max Weber's Wirtschaft und Gesellschaft of 1925, translated into English as The Theory of Social and Economic Organization by Talcott Parsons. Islam (and other Far East religions) are taken up in this monumental study, not for the sake of getting to understand their true nature, but solely for gaining an appreciation of the West by being sharply contrasted against these. This being the aim, whenever Islam is referred to it becomes a lifeless picture. Examples from its system of belief get selected meticulously in order to represent the completely opposite view to those of the West. For an appreciation of Weber's ideas Sabri Ulgener's book in Turkish, Islam, Tasavvuf ve Cozulme Devri İktisat Ahlakı has been used. (Istanbul: Der Yayinlari, 1981).
- 2 See for example Mehdi Nakosteen, History of Islamic Origins of Western Education, AD 800-1300, (Boulder: University of Colorado Press, 1964).

The fourth chapter of George Makdisi's The Rise of Colleges - Institutions of Learning in Islam and the West, (Edinburgh: Edinburgh University Press, 1981), pp.224-280, titled 'Islam and the Christian West' gives also considerable information. The following quotation by him from the Indiculus Luminoso of Mozarab Alvaro of Cordoba may have been made in reverse, after seven centuries, by a Muslim commentator say living in present day Istanbul. To prove the point, suggested replacements will be given in brackets:

My fellow-Christians [Muslims] delight in the poems and romances of the Arabs [Europeans]; they study the works of Muslim [Christian] theologians and philosophers, not in order to refute them, but to acquire a correct and elegant Arabic [English] style. Where today can a layman be found who reads Latin [Arabic] commentaries on Holy Scriptures? Who is there that studies the Gospels [The Qur'an], the Prophets [the hadith], the Apostles [the sirah]? Alas! the young Christians [Muslims] who are most conspicuous for their talents have no knowledge of any literature or language save the Arabic [English]; they read and study with avidity Arabian [European] books; they amass whole libraries of them at a vast cost, and they everywhere sing the praises of Arabian [European] lore...

The world of Middle Ages is unfortunately a close box to many in the East as well as the West. An extract from a noted British Historian will suffice to strengthen the point.

The most splendid metropolitan centres of Al-Andalus were Cordoba and Seville. ...To them - and to Toledo and Granada too - scholars and intellectuals were drawn from all over Europe, for they had great libraries and schools. They were meeting-places of civilization, drawing, through Islamic culture, upon the Hellenistic past as well as the skills and science of Asia. ...From mid-tenth to the mid-

thirteenth centuries, Muslim Christian and Jewish scholars were used to working together in Spain, to their great mutual benefit.

In the same book John Roberts takes up also the point of tolerance between the two monotheistic faiths, as will be seen in the following extract.

In the end Spain turned out to be the theatre of the most unambiguous and unqualified struggle of all between Islam and Christianity. Finally there was no compromise. In human terms, Islamic Spain was in the end obliterated, whatever its enduring traces in monuments and mentality.

...When, eventually, the Turks went away [Ottomans leaving the European domains at the end of first world war], the Christian communities they had ruled for centuries were still there, their culture and language intact. It was very different from what Christian rule did to Sicily and Spain.

See J. M. Roberts, The Triumph of the West, (London: British Broadcasting Corporation, 1985), pp. 140, 144, 165.

3 Referring to this phenomenon, Kevin Lynch wrote:

...the values and the valuers who transformed Boston can be traced, overlaid as they are by the complexity of a great city and the vast inertia of its form. The city did not just 'grow naturally' nor was it the inescapable outcome of impersonal historic forces. Neither was its growth a unique or incomprehensible tale.

Kevin Lynch, A Theory of Good City Form (Cambridge, Mass.: The M.I.T. Press, 1981), p. 35.

4 See for example, H. A. R. Gibb, Islam - A Historical Survey, (Oxford: O.U.P. 1986) pp. 86.

5 Max Weber deals with this point in his Wirtschaftsgeschichte of 1923, in detail. English translation by Frank H. Knight. as General Economic History, (Glencoe, Illinois: Free Press, 1950), pp. 310.

6 The state of affairs referred to can be represented by one such gathering in Saudi Arabia itself.

In January of 1980 King Faisal University's College of Architecture and Planning organized an 'International Symposium on Islamic Architecture and Urbanism' at Dhahran. Amongst the 72 authors participating at the five day seminar were such luminaries as Professor Geoffrey Broadbent and Professor N. J. Habraken.

Professor Broadbent's contribution was titled "Meaning in the Islamic Environment". Most people familiar with Broadbent's specific area of interest, will not be surprised to read that he suggests, as the most appropriate technique for analysing meaning in [Islamic] Architecture, C. S. Peirce's trichotomy of an Icon, a Symbol, and an Index. As a further elucidation he puts forward his 1973 suggestions of Pragmatic Design, Typologic Design, Analogic Design, and Geometric Design as playing their part in the development of Islamic Architecture. See: Geoffrey Broadbent, 'Meaning in the Islamic Architecture', Aydin Gemen (ed.) Islamic Architecture and Urbanism, (Dammam: King Faisal University, 1983) 183-199, (pp. 191, 193).

The most remarkable paper in its irrelevance (with no disrespect to the authors at all) was one by N. J. Habraken and Eric Dluhosch, titled "The role of Industrial Production in the Low-Income Sector of Egypt". The paper focuses on eleven imported prefabricated systems and their appropriateness to Egyptian conditions, coming up with six point recommendation for a more healthy development for the industrialized housing sector, and suggesting "respectfully" their adoption by the conference. The first and last points will be given here as an example:

1. Investment in factory production of these materials, elements, and components that are universally applicable to the whole housing market, based on the use of skilled and unskilled as well as semi-skilled labour on-site and off-site, and for "self-help" activities. ...
6. Vigorous support by government and industry (the producers) of research and development to provide short-term and long-term assessment of existing technology options, and to provide a basis for the development of industry-wide norms and standards for the creation of expanded markets for more adaptable and user-responsive systems, and to increase efficiency, while truly decreasing costs.

See: Aydin Germen (ed.) *Ibid.*, pp. 213,214.

This should be contrasted with the findings of Hardy and Satterthwaite in Shelter: Need and Response, (New York: Wiley, 1981) where, Egypt is also referred to amongst seventeen other Third World countries. In 1975, faced with a deficit of 1.5 million urban housing apparently it sought to solve the problem through contracts with foreign companies specialising in highly industrialized prefabricated design. This would not only reduce employment where unemployment was already high, but "the final product is likely to be even less appropriate for Egypt's climate and culture than the public housing blocks already built."

There were of course sensitive and lucid presentations shedding new light on the topic of the conference by other participants, the value of which should not be tarnished with the not so relevant presentations commented on here.

- 7 For some of the publicly expressed views by Professor Dogan look at Chapter One, reference notes 23, 24. Others of equal or lesser prominence, can also be quoted, this time from the Tenth Seminar in the same series:

"The so called 'Islamic' architecture is really a cultural form of expression rather than a religious one and that is why I think the designation 'Islamic' architecture is inappropriate and misleading..."

Spoken by Mr. Rifat K. Chadirji, Architect/Planner from Iraq, later to receive special award of the Chairman, The Aga Khan Award for Architecture.

"I agree totally with Mr. Chjadirji. We really should not use in our discussions here...the word 'Islam' or 'Islamic' when refering to culture. ...'Islamic culture' or 'Islamic architecture' [as] concepts are too wide and are therefore impossible to define."

Spoken by Professor Mohammad Arkoun, Historian, Algeria. Chairman, History of Islamic Civilisation and Arabic Literature, University of Paris.

"The major dispute raised amongst the educators and professionals is one regarding the name 'School of Islamic Architecture'. Are the other Schools un-Islamic? Can architecture be divided into 'Islamic' and 'un-Islamic'?"

Stated by Dr. Jamel Akbar, Architect, Saudi Arabia. Assistant Professor, King Faisal University, Dammam.

See: Ahmed Evin, Ed., "Architecture Education in the Islamic World, Proceedings of Seminar Ten 21-25 Granada Spain. The Aga Khan Award for Architecture. pp. 22, 126.

- 8 Peter Davey, 'Pugin Pointed the Way', Architectural Review, vol. CLXXV No. 1047 (May 1984, pp. 20-23, (p. 20).

For further comments on Pugin's attitude to design in general, see also, Jonathan Glancy, 'Pugin Reunion' in Architectural Review, (Nov. 1984), p. 58-63.

A dissenting opinion as regards Pugin's ideas is expressed by David Watkin in his 'Morality and Architecture'. See: David Watkin, Morality and Architecture, (Chicago and London: The University of Chicago Press, 1977) pp. 17-23.

- 9 Having considered a report submitted by the university's Provost, dated 30 November 1982 and titled 'Priorities and Commitments for Excellence at the University of Notre Dame', Board of Trustees of the University made a statement identifying a number of points in the report that they specifically subscribe to. Some of these are:

1. The board of trustees perceives Notre Dame as a private co-educational university, Catholic in character, in its heritage, and in the values it espouses, founded by the Congregation of Holy Cross and governed by a predominantly lay board, committed to excellence in its teaching and research programmes....

4. As a matter of deep conviction and commitment, the board seeks to reinforce Notre Dame's Catholic character. Fundamentally, this is best done by the presence of excellent Catholic scholars in sufficient numbers to maintain and deepen the traditional values and heritage of Notre Dame...

See: Timothy O'Meara, 'The Notre Dame Long-Range Plan', in New Directions for Higher Education, No. 47, (September 1984), 85-99 (p. 97). (Underlines mine.)

- 10 The author who is a famous Darwinist is quoted with approval by yet another Darwinist, Herbert Spencer, in: Herbert Spencer, Education, (London: Watts & Co., 1945) p. 47.
- 11 N. S. Shishkin, in, The Teaching of Social Sciences in Higher Technical Education, (Paris: UNESCO, 1968), p. 108.
- 12 Many articles and books restate this point. See for example, Seyyed Hossein Nasr, Ideals and Realities of Islam, (London: George Allen & Unwin Ltd., 1960) pp.95
- 13 S. Parvez Manzoor, 'Studying Islam Academically', Inquiry, (April, 1986), 33-38, (pp. 37.)

- 14 Ziauddin Sardar dealt with this aspect as the "Islam and X" mentality in, Ziauddin Sardar, 'What Makes a University Islamic', Inquiry, 3 No.4 (April 1986) 39-44, (pp. 41).

A similar conclusion is reached by Naqwi in relation to "Islamic Economics".

This analysis...shows clearly that no existing economic system can completely satisfy all the Islamic ethical axioms. Hence the need of a distinct Islamic economic system which does satisfy them. It may be noted that there is nothing tautological about this line of argument, since it asserts a perfectly legitimate point that both the axioms and their consequences form a distinctive logical system, so that the truth of the latter cannot be verified without reference to the former.

Syed Nawab Haider Naqvi, Ethics and Economics - An Islamic Synthesis, (Leicester: The Islamic Foundation, 1981/1401), pp. 32.

For a discussion on disciplines as a product of specific world-views see: James Steve Counelis, 'Knowledge, Values and World-views: A framework for Synthesis', in Ziauddin Serdar, (Ed.), The Touch of Midas, (Manchester: Manchester University Press, 1984), 211-231.

- 15 Banister Fletcher, (Revised by J. C. Palmer) Sir Banister Fletcher's A History of Architecture, (New York: Charles Scribner's Sons, 1975)
- 16 Ziauddin Sardar, op. cit., p.41.
- 17 This is a twin concept and is referred to in Islamic Law as farḍ al-ʿayn and farḍ al-kifāyah. Within the former exists a set of obligations (such as fasting) ordained by Allah Almighty that is incumbent upon and necessary to be practised by each and every muslim.

Similar to these obligations there exists a general body of basic knowledge, (actions required, permitted or prohibited in Islamic Law, are some of these) that every muslim must be in possession of personally. This is also called farḍ al-ʿayn.

In contrast to above there is a second set of obligations, performance of which by a number of muslims will be deemed sufficient and stop being obligatory upon the rest of the community, (attendance at Salat al-Janazah (Special prayer for a deceased) are such obligations).

Parallel to this there exists a body of specialized body of knowledge that at least a number of muslims in their community should be in possession of in order to absolve the rest of the community from the necessity of having to learn or perform it, (medical knowledge or engineering disciplines are some examples of these). Non-availability of these disciplines or vocations would make each and every member of the community equally and individually responsible and answerable in the Hereafter. This is called the Fard al-kifāyah. See also the Appendix One.

- 18 The definition was first used in a paper by H. M. Ateshin, A. Eyuçe, and N. Cebeci 'Concepts and Concerns for the Training of Designers of the Islamic-Built Environment, presented at The Conference on the "Preservation of Cultural Heritage of Islamic Cities" held at Istanbul in April 1985.

19 Main attributes of this new breed is minutely detailed in: Ervin Laszlo, 'The Obsolescence of Modernism', in Frank Feathers (ed.), Through the '80s: Thinking Globally, Acting Locally, (Washington: World Future Society, 1980) p. 283.

20 Though it will be taken up later it may help to mention here that in Islam's view man is born free and innocent. In this respect every new born child even if he is born to non-Muslim parents is still considered to have been born as a Muslim, the condition he stays in till he reaches the age of puberty, the age at which Islam considers the starting of individual responsibilities. Man is thus considered as a creature unsullied with any ontological flaws. He does not carry any stigma of 'original sin' that would make him a victim of his own humanity. From the point of view of Islam, a 'fallen' humanity is not in keeping with divine justice nor with human dignity.

Man is central to all faiths, even to philosophies that reject transcendental dimension to Man's nature. A deeper discussion of the subject is beyond the scope of this particular study. Those who wish to have a concise view of Man's position in Islam can refer to a paragraph in Abul A'la Al-Maududi's The Meaning of the Qur'an, (Lahore: Islamic Publications Ltd., 1974) Vol. I, pp.12-14.

For a more direct reference, one that also brings into sharp focus the heights that Man can attain in contrast to the depths that he is also susceptible to fall, the interpretations of the 95th. Surah of the Qur'an can be resorted to. Specifically 4th. and 5th. Ayah are pertinent. -See: Sayyid Qutb, In the Shade of the Qur'an - Vol.30, (London: MWH London Publishers, 1979) pp. 213-214.

21 The Qur'an, 20:121.

22 A number of Verses in the Holy Qur'an further identifies the capacity of man to make moral decisions and exercising a choice between alternatives. See for example verses: 2:30, 5:48, 6:165, 11:118. 76:2-3 and especially 90:8-18.

For a lucid exposure of the concept involved see: Sir Mohammad Iqbal, The Reconstruction of Religious Thought in Islam, (Lahore: Ashraf, 1982), p. 85.

23 For a general discussion of this concept see chapter II, 'The Nature of Human Nature' in Abdulrahman Salih Abdullah, Educational Theory- A Qur'anic Outlook, (Makkah: Umm al Qur'a University, 1982) pp. 47-80. The book was originally presented by the author as a Ph.D thesis to the University of Edinburgh in 1981.

24 In Islam, the created beings are considered as being divided into two groups as kethif (Dense), and latif (Lacking any Density). The first group possesses volume, mass and occupies a place upon earth. The second group does not have any of these attributes like angels, spirit, satan, jinn.

Dense beings are further divided into two groups as Dhi Hayat (Living) and Jāmid, (Inanimate).

Living beings are also divided into two, as Animals and Plants.

Physiologically man is part of the Animals. His only distinguishing

attribute from the rest of the animals is his Mukallafiyah, (Obligation). In contrast all the rest of the created beings are attributed as Musakhkhar (In the service of) to Man.

- 25 In the Qur'an 38:27, Allah Almighty says:

"And I have not created men and jinn except to worship/serve Me."

The verb 'abada as used here means worship as well as serve. In all Semitic languages it has been used in this double sense.

- 26 In the Qur'an, (14:32) Allah Almighty says:

"It is Allah who hath created
The heavens and the earth
And sendeth down rain
From the skies, and with it
Bringeth out fruits wherewith
To feed you; it is He
Who hath made the ships subject
To you, that they may sail
Through the sea by His command;
And the rivers (also)
Hath He made subject to you

- 27 A number of verses in the Qur'an identifies this aspect.

"We did not create the heaven and earth and all between them carelessly. We did not create them but for right ends." (44:38-39)

"[Righteous are] those who ponder the creation of heaven and earth and affirm, "O Allah! You have not created this creation in vain"... Certainly, We have not created heaven and earth and what is in between in sport." (3:191; 21:16)

- 28 Isma'il Raji al Faruqi, Islam and Culture, (Kuala Lumpur: ABIM, 1980) pp. 24-31

- 29 Gulzar Haidar lists eleven attributes of this [ideal] city as follows: (The City) of Divine Trusteeship; of Law; of Justice; of Causality and Accountability; of purpose; of Core; of Life and Energy; of Ecological Harmony; of Knowledge; of Simplicity, Humility and Piety; of Ingenuity and Craft; and finally of Beauty.

As regards the Design principles he expounds these under three formative value headings as follows: A- Environmental Sensibility; B- Morphological Integrity; and C- Symbolic Clarity.

Gulzar Haidar, 'Habitat and Values in Islam: A Conceptual Formulation of an Islamic City', in Ziauddin Sardar (ed.), The Touch of Midas, (Manchester University Press, 1984), 170-208.

- 30 For a more detailed study of the topic the following sources can be referred to:

Othman B. Llewellyn, 'Shariah-values Pertaining to Landscape Planning and Design' in Aydin Germen (ed.), op. cit., p. 31-42. It has extensive references as well to the original source material in the legacy of Islam.

-----, 'Desert Reclamation and Islamic Law', The Muslim Scientist, (1982) 9-30.

Pervaz Mansur, 'Environment and Values: The Islamic Perspective' in Sardar (Ed.) The Touch of Midas op. cit., pp.150-169.

Abou Bakr Ba Kader, et all., Islamic Principles for the Conservation of the Natural Environment (Gland-Switzerland: International Union for Conservation of Nature and Natural Resources, 1983). This publication, numbered as twentieth in the series of IUNC Environmental Policy and Law Papers, gives a concise statement regarding the principles referred to in the title.

- 31 Titus Burckhardt, Art of Islam, (London: World of Islam Festival Trust, 1976), p. 189.

The basis of this behaviour is the injunction of the Creator in various verses of the Qur'an. See for example 33:21:

You have indeed
In the Apostle of Allah
A beautiful pattern of conduct
For anyone whose hope is
In Allah and the final Day
And who engages much
In the praises of Allah

- 32 Clifford Geertz, The Interpretation of Cultures - Selected Essays, (New York: Basic Books Inc., 1973), p. 144

- 33 Ibid., p. 44.

- 34 Luigi Pareti et. al. History of Mankind, Vol. II-The Ancient World, (London: George Allen and Unwin Ltd., 1965) p. 530.

- 35 At the time of the revivalist movements during the Eighteenth century, Neo-Greek also became fashionable in the New World. Bill Risebero relates the developments as follows:

"...Latrobe worked on the reconstruction of the Italian-Style White House into a Greek Ionic mansion (1807)...Inherent in the architectural message was a parallel between the new state apparatus and Athenian democracy of the 5th. Century B.C..."

...In an attempt to create in the Southern system, both amongst themselves and others, the rich plantation-owners adopted a life-style of cultured gentility and chivalry. Neo-Classical architecture, which in the north represented federation, republicanism and freedom, took on a new meaning in the south. The apologists noted that Plato's Athens had been dependent on slavery; the use of the Greek architectural style was therefore one way of linking present with an admired past, and implying that slavery was an essential part of any great democracy. (underlines added).

See Bill Risebero, Modern Architecture and Design - An Alternate History, (Cambridge: M.I.T. Press, 1983) pp. 15, 43

One does not need to add that "democracy" also was a word sired by and

adopted from the Greeks.

- 36 These views were expressed by Roger Garaudy, a prominent French Muslim, in a paper originally delivered at the Third International Seminar on the "Islamisation of Knowledge" organized by the International Institute of Islamic Thought at Kuala Lumpur, Malaysia, July 1984. It has later been published. See: Roger Garaudy, 'The Balance Sheet of Western Philosophy in This Century', The American Journal of Islamic Social Sciences, vol. 2 no. 2, (December 1985), 169-178 (p. 172)
- 37 The Oxford English Dictionary, Vol. 1 A-B, (Oxford: Clarendon Press, 1978) p. 434.
- 38 This aspect is common knowledge and so "beautifully" illustrated in art books on the age. History books also substantiate the attitude, as in the following passage:

"...Praxiteles sculpted many of the gods, but his purpose was not to show divine majesty, as Phidias had done. Instead he showed the grace and charm of the human form, especially of the female, and his gods and goddesses, though still beautiful look completely human."

From, C. J. H. Hayes and J. H. Hanscom, Ancient Civilizations, (London: Collier Macmillan Publishers, 1968), p. 246.

- 39 Professor N. J. Habraken of M.I.T. in the keynote address at the 8th. International Forum of E.A.A.E. (April 1983), meeting at Newcastle Upon Tyne University, refers to this as the traditional professional model inherited from the Western European architecture tradition in the following words.

"...Here the architect is seen as the maker of the exceptional product, for an exceptional occasion and for exceptional use. It sees the architect as the maker of monuments - those buildings that by their very existence must transcend time, must symbolize a society's values and were planted in an everyday built environment which was never considered to be the architect's responsibility.

Though he discards it as a hopelessly obsolete model in favour of an alternate one in which "the professional role is based on the awareness that monuments will eventually grow in a healthy built environment but that healthy built environment can never be made out of monuments", he confesses as follows:

"...This simple truth has come to many of us but it is still not generally understood... The sad reality is that we never examined the attitude that was needed to deal with the everyday environment. We continued to approach all these new and exciting problems [dwelling, the factory, the railroad station] as we approached the problem of building the exceptional...We may have abolished the Beaux-Arts style and even its way of working but we have not abandoned the dream of professional achievement as it was enshrined in the academy."

See: H. J. Low (Ed.), Architectural Education in Europe and the Third World - Parallels and Contradictions, (Newcastle Upon Tyne: EAAE/AEEA, 1983).

Habraken is not alone in expressing such sentiments. Professor Zelinsky

also comments in a similar fashion:

"...There is an irresistible urge to achieve - and proclaim - the quantifiably superlative - the biggest, highest, costliest, loudest or fastest - frequently without any dollar and cents justification."

See, Prof. Wilbur Zelinsky, The Cultural Geography of the United States, (New Jersey: Prentice Hall, 1973), pp. 60.

40 Arabic dictionaries that can be resorted to are:

Butros al Bustani, Muhit-al-Muhit (Beirut:Maktabat Lubnan,1977) 631, 632
Ibrahim Mustafa and others, Al-Mu'ajam-al-Wasit (Cairo:Majmuah-al Lughah-al-'Arabiyyah, 1961), pp. 632, 633.

A specialised English dictionary devoted to Qur'anic terms is one by John Penrice, A Dictionary and Glossary of the Kor'an, (Lahore: Biruni, 1976). First published in London in 1873. pp 101.

A more readily available dictionary is: Elias' Modern Dictionary, Arabic into English, (Cairo: Elias Modern Press, 1972)

Mohammad Isma'il Ibrahim, in his Arabic Mu'jam al-Alfāz wa-l a'lām al Qur'āniyah, (Cairo: Dār al Fikr al-'Arabī, 1388/1968), p.355, interestingly defines Al °Imarah as "Dhid al Kharab" (the opposite of destruction, extinction of signs of life)

41 References in the Qur'an can be found in the following verses: 9:18-19; 35:11, 37; 36:68; 52:4.

42 °Umran as a scientific term was given currency in his 'Muqaddemah' by Ibn Khaldun. Franz Rosenthal in his three volume translation of the work includes at the beginning a short review of the author as well as the work itself. Though his rendering of the English equivalences of a number of associated terms or words are not quite exact it still is the best available version of the work in English. Ibn Khaldun, Muqaddemah - An Introduction to History, (Princeton, N. J.: Princeton University Press, 1958), translated from the Arabic by Franz Rosenthal.

43 Leonardo Benevolo, History of Modern Architecture, (Cambridge, Mass.: The M.I.T. Press, 1977), vol. 1., p. xi.

44 'The Prospects of Architecture in Civilization', lecture given at the London Institution, 10 March 1881, in On Art and Socialism, London, 1947, p. 245. (Underlines mine).

45 Islam as a system of belief and its implementation as a way of life has of course immense amount of literature behind it. For those who may not have had an exposure to this literature and wish to have a general introduction can look up the following: Khurshid Ahmad (Ed.), Islam: It's Meaning and Message, (London: Islamic Council of Europe, 1975).

Salem Azzam (Ed.), Islam and Contemporary Society, (London: Longman, 1982).

Those familiar with the two other monotheistic faiths, Judaism and Christianity, may find more direct references in a comparative study such as contained in: Isma'il Raji al Faruqi, (Ed.), Dialogue of the Abrahamic Faiths, (Washington: International Institute of Islamic Thought, 1982)

Those seeking further exposure specifically to the historical development of the system of Islamic Law in more depth, see: Joseph Schacht, An Introduction to Islamic Law, (Oxford: Clarendon Press, 1984)

- 46 In Sunni Islam, Islamic legal theory in its final, classical form recognizes four official sources as its base.

- 1- Qur'an, the Book containing the words of the Creator.
- 2- Sunnah the Prophetic tradition in Islam.
- 3- Ijma' or the consensus of the scholars of Islam.
- 4- Qiyas, reasoning by analogy.

For further information on these see: Joseph Schacht, An Introduction to Islamic Law, (Oxford: Clarendon Press, 1984), pp. 112-115

- 47 Formulation of the four areas of existences defined here was first used by Dr. Turgut Cansever in an unpublished paper submitted for consideration whilst developing the original programme for Umm-al-Qur'a University. See: Dr. Turgut Cansever, 'What is Islamic Architecture. How Can We Recognize and Develop the Architecture of Islam', in Towards the Establishment of a School of "Islamic Architecture" (Jeddah, Rajab 1403), Appendix F. (Unpublished report submitted to Umm al Qura University and discussed by its Select Panel of Experts on 2 May 1983.

- 48 Titus Burckhardt refers to the same notion in his book dealing with sacred art. In the chapter on 'The Foundations of Islamic Art' starting from the point of view that looks upon the act of "projecting the nature of the absolute into the relative, by attributing to the relative an autonomy that does not belong to it" as being a fundamental error, he comes to the similar conclusion in the following words:

"...As applied to art, this means that every artistic creation must be treated according to the laws of its domain of existence and must make those laws intelligible; architecture for example, must manifest the static equilibrium and state of perfection of motionless bodies, typified in the regular shape of a crystal."

He further emphasizes this point by attesting to its confirmation through Muslim masters:

"...that art consists in fashionable objects in a manner conformable to their nature, for that nature has a visual content of beauty, since it comes from God; all one has to do is to release that beauty in order to make it apparent. According to the most general Islamic conception, art is no more than a method of ennobling matter."

See: T. Burckhardt, Sacred Art in East and West, (Bedford: Perennial Books, 19..), pp. 102, 104. See also comments made in ii B of this chapter.

- 49 Haidar Naqwi, who was referred to earlier concurs with this view in another discipline area, that of Economics. Aiming at assembling the building blocks of an Islamic Economic System that is distinctive, he first of all develops what he terms as an "Islamic Axiom System". This is based "on the observations and value judgements contained in the Holy Qur'an and the Sunnah, both of which have a supreme claim to universality, at least in the eyes of the Muslims". The broad contours of an "Islamic Economic System" is then built upon this. See: S. N. H. Naqwi, op. cit., pp. 22, 126.

Another supportive document has also been produced recently by Ilyas Ba-Yunus and Farid Mustafa on "Islamic Sociology". In the preface to their book they express their aim as being to introduce "Islamic Sociology" as distinct from other sociologies in vogue today - including the contributions of Muslim sociologists - and to make a value commitment on the one hand. On the other hand, this value commitment, which must not be the burden of sociologists only, is to give a unity of purpose between practitioners of this discipline and other scientists of the same orientation. Thus although this book deals mainly with the development of Islamic sociology, it must start with a word on the Islamic philosophy of science. See: Ilyas Ba-Yunus and Farid Ahmad, Islamic Sociology: An Introduction, (Cambridge: The Islamic Academy/Hodder and Stoughton, 1985), pp. ix. Further points as regards ideology and the way of life on which the system is based is explained on pages 45-56.

50 See for example his following works:

Isma'îl R. al Faruqi, 'Islam and Art', Studia Islamica, Fasc. xxxvii, pp. 81-109.

-----, 'Misconceptions of the Nature of the Work of Art in Islam', Islam and Modern Age, vol. 1, No. 1. (May 1970) pp. 29-49.

-----, 'On the Nature of the Work of Art in Islam', Islam and Modern Age vol. 1, No. 2. (August 1970) pp. 68-81.

-----, Divine Transcendence and Its Expression, (Kuala Lumpur: ABIM, 1403-1983).

51 -----, Tawhîd: The Implications For Thought and Life, (International Institute of Islamic Thought, 1982)

52 Ibid., pp. 18-19

53 Ibid., pp. 28.

54 Seyyed Hossein Nasr, Islam and the Plight of Modern Man, (London: Longmans, 1975), pp. 143

55 Besim Selim Hakim, Arabic-Islamic Cities - Building and Planning Principles, (London, New York, Sydney and Hemley: KPI, 1984)

56 Ibid., pp. 19, 20.

Selected Qur'anic verses referred to in the text are given below, translators name appearing after the sura and verse number.

1. 'O mankind! Eat of that which is lawful and wholesome in the earth, and follow not the footsteps of the devil. Lo! he is an open enemy for you.' 2:168 (Pickthall)

2. 'O ye who believe, eat of the good things that We have provided for you, and be grateful to God if it is Him ye worship.' 2:172 (Ali)

4 'O you who believe! Spend of the good things which ye have earned, and of that which we bring forth from the earth for you, and seek not the bad [with intent] to spend thereof [in charity] when you would not

take it for yourselves save with disdain; and know that Allah is Absolute, Owner of Praise.' 2:267 (Pickthall)

5. 'You are the best nation ever brought forth to men, bidding to honour, and forbidding to dishonour, and believing in God. Had the people of the Book believed, it were better for them; some of them are believers, but the most of them are ungodly.' 3:110 (Arberry)

6. 'O ye who believe, eat not up your property among your vanities, but let there be amongst you traffic and trade by mutual goodwill. Nor kill [or destroy] yourselves: for verily God hath been to you most Merciful.' 4:29 (Ali)

13. 'And it is God Who has appointed a place of rest for you of your houses, and He has appointed for you of the skins of the cattle houses you find light on the day that you journey, and on the day you abide, and of their wool, and of their fur, and of their hair furnishing and enjoyment for a while.' 16:80 (Arberry)

14. 'O ye who believe, enter not houses other than your own, until ye have asked permission and saluted those in them: that is best for you, in order that ye may heed.' 24:27 (Ali)

15. 'If ye find no one in the house, enter not until permission is given to you; if ye are asked to go back, go back: that makes for greater purity for yourselves, and God knows well all that ye do.' 24:30 (Ali)

16. 'Say to the believers that they should lower their gaze and guard their modesty, that you will make for greater purity for them, and God is well acquainted with all that they do.' 24:30 (Ali)

18. 'Then watch thou for the day that the sky will bring forth a kind of smoke plainly visible.' 44:10 (Ali)

19. 'Enveloping the people: this will be a penalty grievous.' 44:11 (Ali)

Selected sayings of the Prophet referred to in the text are given below, Sources are identified in the book but omitted here.

7. 'If somebody cuts a tree, God will place his head in fire.' Abu Dawood via Abdullah Ben-Hubaish.

8. 'Avoid the three accursed: excreting in the streams, in thoroughfares and in the shade.' Abu Dawood via Ma'adh.

12. 'On the Day of Resurrection God will not consider [or support], and will make a man face severe torment who had excess water in a thoroughfare and denied it to the passer-by...' Abu Hurairah.

14. 'Muslims are partners in three things: water, pasture and fire.' Abu Dawood and Ibn Majah via Ibn Abbas.

15. 'The Prophet decreed that the flow of scarce water be measured to the ankles by the user of the higher ground, then sent to the lower ground.' Ibn Majah and Abu Dawood via Omar and Ben-Shuaib via his

father via his grand father.

29. 'He who looks into a house without the occupants' permission, and they puncture his eye, will have no right to demand a fine or ask for punishment.' Ahmed and al-Nisai^o via Abu Hurairah,

32. 'If a man pushes aside a curtain and looks inside without permission, he has then reached a point which he is not allowed to reach.' Ahmad and al-Termedhi.

34. 'Do not harm others or yourself, and others should not harm you or themselves.' Ahmad and Ibn Majah.

57 Ibid., pp. 34.

58 Sigfried Giedion, Space, Time and Architecture - The Growth of a New Tradition, (Cambridge, Massachusetts: Harvard University Press, 1978) pp. lv-lvi. Despite the inferred association of its title with the space-time conception of the Universe in Modern Physics, there is hardly any scientific validity of it in the text, and of course none of the transcendental dimension of the space-time concept. Space(s) is just variations of different relationships with each other. For a critical comment on Giedion's views see: David Watkin, Morality and Architecture, (Chicago and London: University of Chicago Press, 1977), pp. 53-61.

59 Christian Norberg-Schulz, Existence, Space and Architecture, (New York, Washington: Praeger Publishers, 1971), p.12.

60 -----., Intentions in Architecture, (London: Allen and Unwin, 1963), p. 97.

61 -----., Existence, Space and Architecture, pp. 15.

62 Ibid., pp. 16.

63 Bruce Allsopp, A Modern Theory of Architecture, (London, Henley & Boston: Routledge & Kegan PAul, 1977).

64 Michael Wilford makes a similar comment in his review of the book "Concepts of Urban Design" by Gosling and Maitland. He remarks that "Urban design is architecture and not a separate activity mediating between planning and building. It involves areas of concern which do not recognise boundaries between public and private domains. Currently architecture deals with primarily with individual properties and, unfortunately, only occasionally crosses ownership boundaries. Planning concerns itself with land use and public expenditure policy and rarely involves three dimensional solution. See: Michael Wilford 'Urban Encyclopedia', Architectural Review, CLXXXI No. 1079, (January, 1987), 8-9.

65 N. Pevsner, An Outline of European Architecture, pp.218-220.

- 66 The hadith is recorded in Sahih Muslim. See: Hafidh al-Mundhri' Muhtasar, Sahih Muslim, checked by Mohammad Nasr ad-din al-Albani, Tab^oa al-Ula 1388AH/1969CE Al-dar al-Kuwaitiyyah littibaa wa nashr vet-tawzi. The hadith is numbered 54.

Abdullah ibn Mes'ud narrated that Prophet, may peace be upon him said, "no one will enter paradise if there is even an atom of kibr (pride) left in his heart. On hearing this a man asked, "O Prophet, but a man likes have his dress and shoes to look fine". To this the Prophet, may peace be upon him, replied, "Allah is beautiful and He likes beauty. Kibr on the other hand spoils righteousness and belittles people."

- 67 Amongst the variety of methods of inquiry that were developed by western epistemology is that of 'reduction'. In the practical world it has brought considerable success by providing unimaginable benefits to the human race. However it has also caused untold suffering in its insistence on control and domination especially in the ecological domain. For a critical assessment of the hazards emanating from western sciences see: Stephen Cotgrave, Catastrophe or Cornucopia: The Environment, Politics and the Future, (Chichester: Wiley, 1982).

Critical observations in the west as regard the faults of its epistemology has been going on for the last 200 years. Amongst them one can cite as important the following.

David Hume, Treatise on Human Nature, (Oxford: Selby Bigge edition, 1906).

T. S. Khun, The Structure of scientific revolution, (Chicago: Chicago University Press, 1962).

Gregory Bateson. See his, Steps to an Ecology of Mind, (New York: Paladin, 1973), pp. 463..

- 68 The role of epistemology is of crucial importance in the works of classical scholars of Islam. Amongst these are the two well known works that have also been translated into English. See for example Ibn Khaldun's Muqaddemah (referred to in note 33) and al-Ghazali's The Book of Knowledge, translated by Nabih Amin Faris, (Lahore: Ashraf, 1963).

More recently, Seyyed Hossein Nasr can be credited to be the first amongst the contemporary Muslim thinkers who directed attention to importance of epistemology and the crisis it was responsible for in the western civilization. See his The Encounter of Man and Nature, (London: Allen and Unwin, 1968). Others dealing directly with Islamic epistemology are Syed Mohammad al-Naquib al-Attas, and the late Isma'il Raji al-Faruqi.

- 69 An amazing number of Muslim definitions of knowledge can be found in Franz Rosenthal, 'Muslim Definitions of Knowledge' in Carl Leiden (ed.), Conflict of Traditionalism and Modernity in the Muslim Middle East, (Austin, Texas: University of Texas, 1966).

The importance of the connection between epistemology and society is discussed in detail by David Bloor, Knowledge and Social Imagery, (London: Routledge and Kegan Paul, 1976).

CHAPTER SEVEN:

STRUCTURE OF AN EDUCATIONAL MODEL CONFORMING TO CONCEPTUAL INFERENCES OF AL-‘IMĀRAH

...These problems [that face both Islamic cultures and American architecture] are brought about by the predominance of mass culture and its omnivorous appetite, and by the industrial imperative which erodes traditions as soon as they happen to be built up. The size of modern commissions and the speed with which they are completed seems to me almost to preclude architecture...

...Another point I want to underline is the way in which the international elite dominate all regional cultures today. The best architecture being produced anywhere dominates, and may be even terrorizes, the rest of the world. A few architects in New York or Japan or London can have an extraordinary effect today because of the world village situation and because, as in any period, most people learn from mimicking. Given those realities of mass culture and a world village outlook, it seems to me that the only way for an Islamic architecture to emerge is by creating a countervailing force in the form of Islamic schools of architecture. I know this is a somewhat unpopular idea, associated with academies or with politically unacceptable alternatives. But only through identifying the young or the emergent creative individuals within Islamic architecture - giving them active patronage over a period of time, and allowing them to work and develop within the goals of the clients, thereby developing a new productive process - can a countervailing force be built up against this international elite."

Charles Jencks,
Concluding comments at The Aga Khan Award for
Architecture Seminar No. 5, Places of Public
Gathering in Islam, Amman - Jordan, May 1980.

The question that set off this study in the first place, and even after having covered a lot of ground still occasionally having it self posed, is the central question to the whole issue... Is there any need for and can one develop a specific educational institution distinct from the models found in the western world so as to generate a professional content capable of dealing with

an Islamic built environment? The study itself is the result of opting for a positive answer to this question.

It is inconceivable to think that a particular way of life and its system of thought would not demand a suitable built environment to help it be lived in. And if the demand is granted than again it will be inconceivable not to expect that construction of an institutional structure would not immediately be thought of as the first priority so that its own formative sources are taken as the basis and the validity for a unique model particular to itself. [1]

i- GENERAL ASPECTS OF A DESIRABLE EDUCATIONAL MODEL

Before submitting a structure for a specific educational institution that will teach the discipline of Al-‘Imārah, general aspects of a desirable education will be considered under three headings. These are: the IDEOLOGICAL aspects, the METHODOLOGICAL aspects, and finally the TECHNICAL aspects. [2]

A- IDEOLOGICAL ASPECTS

No activity rests in an ideological vacuum. In our case Islam would provide the ideology of the model to be constructed. According to our previous definition of the vocation that a Mi‘māri is obligated to perform, a system of training formulated for him must accord with a world view and a role that Man is assumed to play in it. There has not been one single world vision conceived by man himself which has not been found to be wanting in its perfection. The only one that rises above all these and places

man as INSĀN on the highest pedestal in the Creation is the World view of Islam. Being the Responsible Agent, or Khalifah of Allah on earth, he has not been left in a vacuum but given distinct responsibilities. These are considered under four categories and encompass the totality of the built-environment within which he functions. He has:

- DUTIES AND RESPONSIBILITIES TOWARDS HIMSELF. He has to protect and preserve his physical as well as mental health. He has to develop and use all his faculties and physical organs as a trust from the Creator for the purposes defined in the Creator's Order. Similarly any material wealth that may come his way, including the time and the place he occupies are all given in trust and has to be accounted for in their use or misuse. He is a centre from which many an act will issue forth and as such he must maintain himself always ready and attuned to whatever demands that may come upon him.

- DUTIES AND RESPONSIBILITIES TOWARDS THE REST OF THE MANKIND. Always working outwards in a system of hierarchical concentric circles, though never trespassing on the rights of others in outlying circles, he must implement his defined responsibilities to the whole of the mankind. The first circle around him contains his immediate family members, that is his parents and children enclosed by the circle of relatives. This is surrounded by the circle of neighbours who has specific rights upon him in the social system of Islam. The next circle would contain the citizens of his urban community within the larger circle of the countrymen

of his nation state. On the outside will be the circle of the ummah and finally surrounding all and encompassing every human being will be the circle containing the rest of the the human race. In each case Islam sets forth the responsibilities that an individual has towards these groups of the mankind.

- DUTIES AND RESPONSIBILITIES TOWARDS THE REST OF THE CREATION. The whole universe being musakhkhar to him is available for use in carrying out the responsibilities outlined above. However its utilization must be carried out in a strict code of responsibility that is not only a moral but a religious duty. His knowledge about the creation must always be extended so as to make most and best use of the creation. His misuse or abuse of each and every available matter, whether living or inanimate, is forbidden. Guidelines chart out what one's responsibilities are and how they should be implemented. And last but not the least,

- DUTIES AND RESPONSIBILITIES TOWARDS THE CREATOR. The role of Vicegerency was defined earlier. This role can not be implemented without a clear idea about what it involves and the kind of responsibilities it incorporates towards the Creator of Whose Vicegerent one is.

Each one of these has been expounded upon in great depth and detail by scholars of Islam in the past.^[3] Aspects of these four general areas as they relate to the built environment in specific and concrete terms has yet to be sifted. It is important to state

that as a world vision Islam does not put itself forward as an exclusive club of "chosen ones" in opposition to others of the mankind, but state that it is the final synthesis of the best that was in those divinely revealed systems that came before. In doing so it opens itself to and encompasses the whole of the mankind in its embrace.

It also does not limit its relevance only to a theoretical life of Hereafter but has specific concerns that includes the totality of men's earthly life too. In fact it looks upon this worldly life as the path through which one has to pass in order to arrive at the Hereafter. It thus completes a cycle starting with the creation of Adam, through generations of insan, and reaching the Day of Judgement as the final act at which all that has happened will be reconsidered in judgement by the Creator.

This then is the world vision that any system of training in any field of science is required to accord with, if it is going to be "islamic" at all. In specific terms this world view identifies in clear terms HOW and FOR WHAT purpose the interaction with the natural environment and Insan will take place.

The need to introduce this concern as an integral part of the programme becomes a prime issue.

B- TECHNICAL ASPECTS

The technical and theoretical skill and knowledge base of a minimum competence required in a MI^cMĀRIH at the point of his

entry into the service of his community can and should be identified for building up a curriculum.

In general terms this minimum competence requires :

-Communications skills in various media - oral, written as well as graphic communication skills - for both collecting and assimilating data to provide options for choice and decision by himself, as well as conveying and transferring to others for administrative and instruction purposes.

- Knowledge of materials with which built environment will be shaped with, regarding their physical properties, performance and assembly under different conditions, as well as production into usable elements and components. Knowledge also of the attributes of the habitat within which the shaping will take place. Last but not the least, knowledge about man for whose benefit the environment will be shaped.

- It also requires the development of analytical, synthesizing and evaluative skills so as to be able to perceive problems not experienced before and make right choices that will end up in appropriate spatial solutions to house the needs of human beings.

- It requires a breadth of vision that learns from the experiments and experiences of the past, and a depth of perception that sees further applications in future through which life can be aided, not hindered, to develop and prosper.

Clearly the academic world/practical world duality would need to

be resolved and relevance of the academic framework of courses to the outside practical world be assured. Similarly the value of limiting the total length of the study or adopting a particular system of division of the whole course into semesters or years has to be addressed to and some form of relevant order achieved, both in the length of study and in its constituent divisions.

Present programmes both in Saudi Arabia and other countries can give us only a general lead in this regard. Unfortunately there does not exist a single professional institution or a governmental department to define what knowledge or skill should be possessed by an architect in the Saudi situation.

For example The National Council of Architectural Registration Boards (NCARB) of United States of America, published in June 1981 a study of examination for architectural licensing. In it they identify "knowledges, skills and abilities" required in providing professional services. From this document one can extract what architects are expected to do for the American society once they offer themselves as professionals. There are 142 items on the list which made one critic to comment that practically everything is required with the exception of brain surgery! Of this list 38 items apparently were of a critical importance. In this list, accounting, economic, legal, technical, environmental and social issues are all addressed. To identify the detailed nature of the list one can refer to the social issues, which is dealt with under four entries: social statistics, social structure, socio-economics and sociology. [4]

Similarly Royal Institute of British Architects of the United Kingdom has its three part examination system through which it ensures the presence of a minimum skill and knowledge content in those that it will recognize as "architects".^[5]

There is a very serious dilemma here facing the educationists. Every discipline is constantly evolving and changing under the mounting pressure of technical advance, changing social and economic conditions and the basis upon which the earlier part of the education, specially secondary education is depending. According to K. Patricia Cross, an American educationist, schools are geared to the development of a narrow range of talent consisting of approximately a twelfth of the known human abilities.^[6] This being the case, students whose talents lie amongst the unexploited eleven twelfth of known human talent will have difficulty in making a productive contribution to his chosen profession of the society. Another pertinent inference to University education is that academic disciplines within their existing parameters in the present model of education may form too narrow a base on which to build a wholesome society. This is confirmed by the fact that academic success is not highly related to success in life outside the academy, implying that the narrow range of human abilities addressed to in the evaluation of academic tasks may be overrated or over-emphasized. It was also suggested in mid-seventies that only 20 % of the jobs anticipated in mid-eighties would utilize knowledge learnt by college students.^[7] This fact would bring into sharp focus the changes in the discipline during the time lag between a graduate's starting at the beginning of a programme and his being pushed into the society at its completion. Thus not

only presently assumed knowledge content, but anticipation of a future knowledge as well as incorporation of more abilities within the concern area must be born in mind.

The issue in the case of Al-^oImārah is more complex in that it is a theoretical formulation for a society that is ideally considered to exist but practically not available within its ideal parameters. Taking up as an example social issues and assuming the American formulation to be as near as one can get to it, one would be hard pressed to identify contents of items related to social statistics, social structure, socio-economics and sociology. In this context "Islamic Economics", "Islamic Banking" are still hotly debated issues similar to "Islamic Architecture" and one would be given the impossible task if asked to find a community that completely avoids un-Islamic financial activities, say "interest", in its financial transactions.

There is not a single "Islamic state" that has rid itself of "interest" factor which is a basic injunction incumbent upon all muslims to follow. Therefore price structures, production considerations, commercial transactions, in fact most things that influence directly the items included under socio-economic issues will not be "islamic" as such.

Despite these difficulties a listing of minimum skills and knowledge required by the future Mi^omāri has to be attempted even if it may be based on theoretical positions. Their modification in order to be relevant to practical situations in various countries can be another exercise that the model may have possibility for.

Similar to any other programme in higher education, specialized nature of this programme also demands the presence of a certain amount of basic knowledge as pre-requisite, to be attained at the secondary school level. However the secondary education in Saudi Arabia is at present in a state of flux. The traditional curriculum structure has been changed by a promulgation in 1985 and a subject/credit system introduced.^[8] The effects of this new curriculum has yet to be ascertained. Thus a cushioning stage is desirable in between the secondary and university stages in order to remedy any deficiency that may exist so as to facilitate the transfer of knowledge associated with Al-‘Imārah. One would refer here to the Exhaustive and Inexhaustive Sciences (explained in detail in Appendix One), and the expectation that by the time of graduation from the secondary school system a level of comprehension would have been attained in all these fields. In the case of Al-‘Imārah the need to go further than this level was recorded. What is necessary therefore is not only the completion of the missing elements up to the level of comprehension in all the fields but a revision or expansion into the level of expression in a number of key areas.

The need to have a specific remedial programme in order to Upgrade the knowledge of the students (if deficient) before allowing them to start the programme proper, becomes an important issue to be addressed to.

The final physical entity within which human life will be led and helped to prosper is so real that skills and knowledge required for its implementation can not be acquired solely through theore-

tical methods. Training has to be carried out in real situations before competence is certified.

Some form of real life training or experience situation becomes therefore a necessary constituent of the teaching structure and has to be integrated into the academic environment without losing its practical "real" world nature.

C- METHODOLOGICAL ASPECTS

In the final analysis the conclusion to the labours of a Mi'imāri will be a formal statement of a spatial entity. This resultant entity should provide a suitable environment for a particular set of needs of human beings. The act of arriving at this final goal is so unique that it can not be taught in methodologies established for other scientific or literary disciplines. The knowledge to be acquired is of a composite nature. The skill and knowledge that has to be acquired in order to enable its realization may be considered in traditional terms as being composed of theoretical elements as well as practical inputs. However the amalgamation of these can not be considered in the same way as subject teaching is being considered for other disciplines. Whether done consciously or without aim, the information gets amalgamated in the mind of the student and finds its application in the design process itself.

The uniqueness of the act of the design process would require the amalgamation to be relevant and meaningful, both to the process and to the final product. A serious effort has then to be exerted

to find out if other more suitable methods can be formulated to take this into consideration.

Development of a methodology of teaching particular to the model that will be proposed becomes another important element of concern.

ii- COMPONENTS FOR A CONSTRUCT

A construct consisting of various components suggests itself to enable the realization of these considerations (ideological, technical and methodological), in an educational programme. It will be described here as a basis from which to develop the final model that the study is aiming at. For a schematic representation of the construct see figure 5.

A- REMEDIAL UNIT

This will be a preparatory unit of studies that will include courses in basic sciences, graphic and linguistic communication techniques as well as basic principles in Islamic sciences as a supplement to those acquired during the secondary education. The aim here will be to bring the level of understanding to a point that would enable the novice to follow the professional programme with ease and benefit. It might be a stage that can be skipped in those instances that presence of knowledge included in this unit is already attained by the prospective student. For this reason in the diagramatic representation of the construct in figure 5 it is shown as an independent item from the rest of the components.

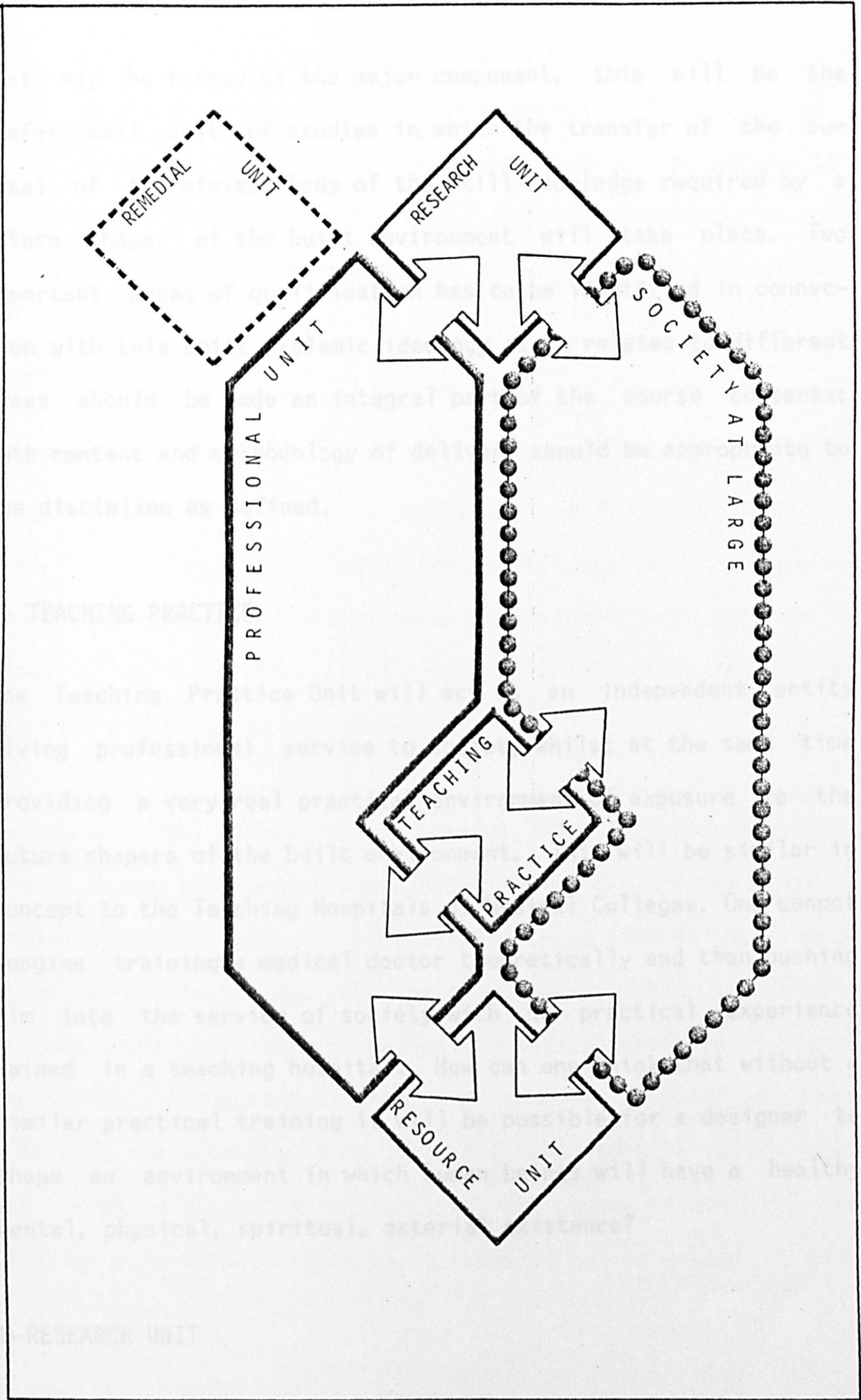


Figure 5. COMPONENTS OF A CONSTRUCT

B- PROFESSIONAL UNIT

What may be termed as the major component, this will be the professional unit of studies in which the transfer of the sum total of the minimum body of the skill/knowledge required by a future shaper of the built environment will take place. Two important areas of qualification has to be identified in connection with this unit: Islamic ideology as it relates to different areas should be made an integral part of the course contents; both content and methodology of delivery should be appropriate to the discipline as defined.

C- TEACHING PRACTICE

The Teaching Practice Unit will act as an independent entity giving professional service to society whilst at the same time providing a very real practical environment of exposure to the future shapers of the built environment. This will be similar in concept to the Teaching Hospitals of Medical Colleges. One cannot imagine training a medical doctor theoretically and then pushing him into the service of society with no practical experience gained in a teaching hospital. How can one think that without a similar practical training it will be possible for a designer to shape an environment in which human beings will have a healthy mental, physical, spiritual, material existence?

D-RESEARCH UNIT

This unit is not a novel idea in itself, but very important in a new model. The roads to be covered in this venture is so tortuous and uncharted that a unit of this nature becomes a must. It

should initiate studies to build up new courses and curriculum for the training of the special personality that will be responsible for the formation of the Islamic built environment. It will also become the vehicle for further expansion of the boundaries of the discipline by providing to the faculty opportunity as well as facility to carry out research in their specialized domains.

E- RESOURCE UNIT

As the last component, equal in its importance to the Research Unit, a Resource Unit will be proposed as another service component. It will act as the depository of all available and accumulated information pertaining to built environment be they in a visual or written form. It will back up the teaching as well as learning and research activities.

The traditional library is one part of the resource unit's elements. Though arrangement and administrative demands may break it into various sections, it is considered as an interrelated integrated unit. Technology has advanced faster than educational schools have been able to assimilate developments in resource generation, resource retrieval, and resource manipulation. A new model has the advantage that it is not hampered with established and hardened attitudes to learning. The chance to establish an efficient, up to date resource unit should not be missed.

F- SOCIETY AT LARGE

Though not a component in the sense of those just dealt with Society at Large will act as an ever present aspect of the

construct and the final model. The Discipline of Al 'IMĀRAH is the most social art/science amongst all other disciplines, even more so than the Medical Discipline. Nothing can be done that does not have a relevance to the society or be related to it. It acts as a kind of screen to validate the relevance of the educational process, as well as becoming the source/resource for the educational activity. Its exteriorized nature is interiorized through the Research, Resource and Teaching Practice Units.

iii- THE MODEL FOR A SCHOOL OF AL-'IMĀRAH

Based on the construct explained in the previous section the actual model to be known as THE SCHOOL OF AL-'IMĀRAH can now be assembled in detail of form and content.

In assembling the model a conscious effort was made not to be bound with any of the existing practices solely because they were universally prevalent. This effort did not exclude any use that could be made of such models if it served the purpose that the new programme itself was structured for. This is a very important point to clarify. The first commitment that had to be made was to the concept of al-'Imārah as expounded earlier in Chapter Six. In order to explain its salient points the model will be considered from three particular aspects: CONCEPTUAL, COMPOSITIONAL and CONTEXTUAL.

A- CONCEPTUAL ASPECTS OF THE MODEL

Conceptually the model contains two entities which distinguishes

the model and sets the parameters for it as a whole. They deal with the two major components of the construct suggested earlier, namely the Professional Unit and the Teaching Practice Unit.

1- STUDIO/WORKSHOP UNIT - THE WAHDAH

Independent subjects as inputs, taught in their own right, with no relevance to each other, and to the particular problem dealt within the Studios, has been the major conceptual problem tackled in developing the model.

In order to overcome this 'insulated' approach to each subject, an all embracing STUDIO/WORKSHOP is conceived for the new model, to be known with its independent name of The Wahdah. This Studio/Workshop amalgamates the whole of the primary teaching/learning processes into one whole as expresses schematically in figure 6A. The Wahdah becomes the receptacle of all inputs and activities. In this concept there is no separate studio courses or theory courses that a student is examined in with independent aims and objectives. The whole input of the Studio/Workshop is taken as one entity and evaluated as such. Whenever possible 'theory' courses are given in reference to the problem defined for the Wahdah and students evaluated in the application of it within the defined problem area.

It thus emerges as a unique teaching tool that serves as the vehicle as well as the environment for the teaching process and emerges as the central focus of the model. Acquisition, absorption, accumulation and animation of the skills and knowledge that will be the content of the future designer will take place here.

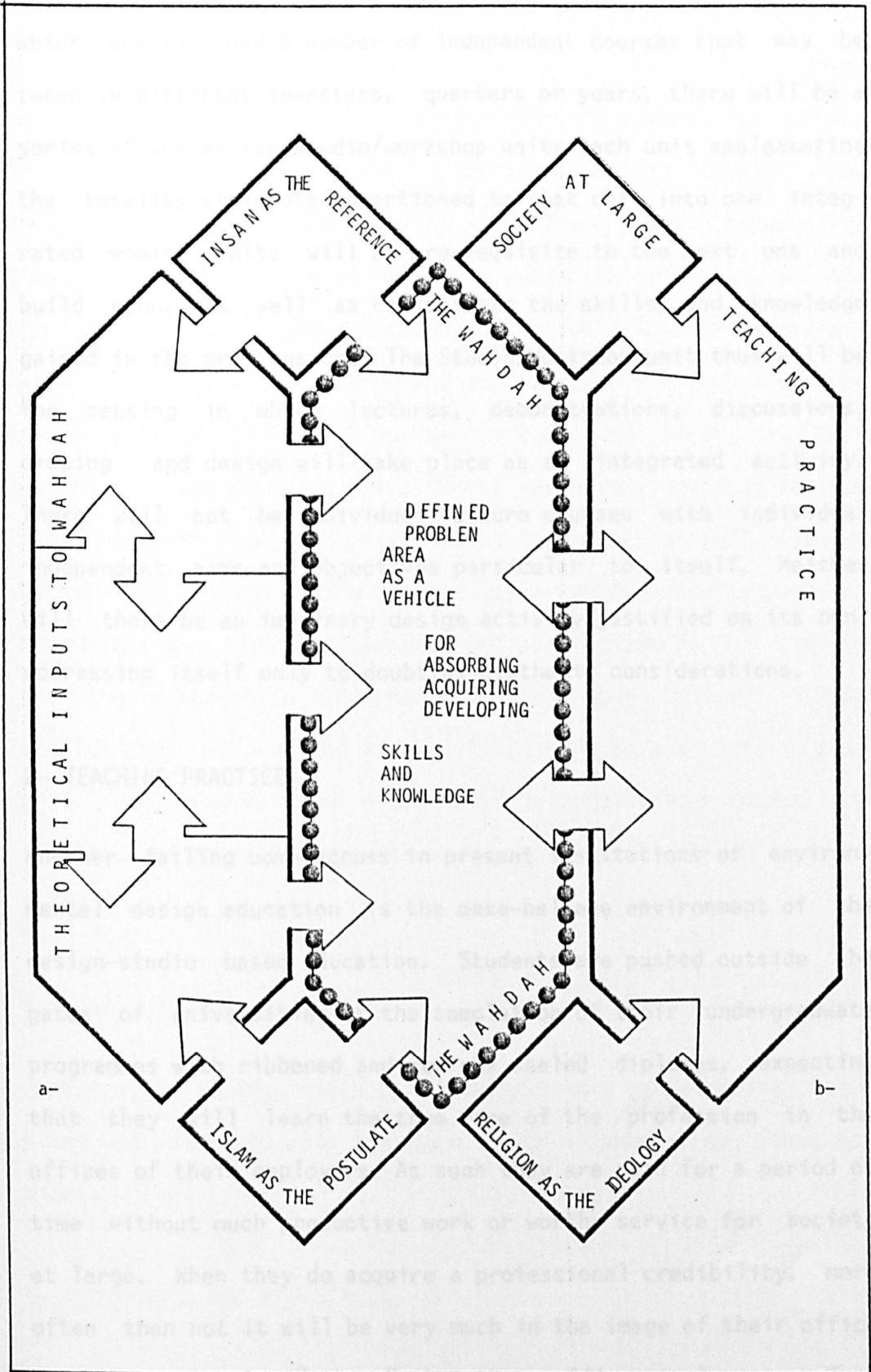


Figure 6. CONCEPTUAL STRUCTURE OF AL-^cIMĀRAH MODEL.

Instead of a semester, a quarter or a year as a unit of study in which are included a number of independent courses that may be taken in different semesters, quarters or years, there will be a series of successive studio/workshop units each unit amalgamating the totality of inputs apportioned to that unit into one integrated whole. Units will be pre-requisite to the next one and build upon, as well as consolidate the skills and knowledge gained in the previous one. The Studio/Workshop unit thus will be the setting in which lectures, demonstrations, discussions, drawing and design will take place as an integrated activity. There will not be individual lecture courses with individual independent aims and objectives particular to itself. Neither will there be an imaginary design activity justified on its own, addressing itself only to doubtful aesthetic considerations.

2- TEACHING PRACTICE

Another failing come across in present institutions of environmental design education is the make-believe environment of the design-studio based education. Students are pushed outside the gates of universities at the completion of their undergraduate programmes with ribboned and red wax sealed diplomas, expecting that they will learn the true face of the profession in the offices of their employers. As such they are paid for a period of time without much productive work or worthy service for society at large. When they do acquire a professional credibility, more often than not it will be very much in the image of their office and the particular "ethics" that that office implements. This aspect became the second important conceptual problem tackled and a TEACHING PRACTICE has been incorporated within the model,

echoing in a way the Teaching Hospital of the Medical Schools. This is shown schematically in figure 6 B. The model proposed will alleviate the weakness by requiring the prospective shaper of the environment to spend a sufficiently long time in the Teaching Practice. The practice will also provide opportunity for the academic staff to be kept abreast and in touch with the current practice of the profession. All too often our universities are filled with academicians who consider the environment to exist only between the lines of their lecture notes...In this regard too the TEACHING PRACTICE becomes a very critical conceptual component of the model. It will provide a full fledged service of ‘IMĀRAH to the society at large under the auspices of the University, generate teaching material to the School, provide training to students, and practical involvement to the academic staff. What is preached in the school will be practised in this unit. Furthermore, the practice will function as a source for selection of possible projects and 'problem area' topics for the units.

B- COMPOSITIONAL ASPECTS

Three specific areas will be identified here as significant in being at variance with the composition of present day institutions.

1- POSTULATES AND REFERENCES.

The first area is the system of postulates and references that frame the studio/workshop, bringing the neglected "islamic" dimension of other schools to the model and thus making it "AL-

'IMĀRAH' rather than "Architecture". ISLAMIC SCIENCES are made an integral part of the programme, becoming the primary postulate in students consideration in the Studio/Workshop. Whatever the "Problem" under consideration, a clear statement will precede it as regards the injunctions of Islam related to the shaping of the built environment in that particular problem area. However, this postulate role can not be implemented in a vacuum. It must have a reference point which in this case becomes the human being himself as INSĀN. Whether on his own as an individual being or in any numbers and mixes that Islam foresaw him associating with each other, INSĀN becomes the next parameter as the REFERENCE in addition to the POSTULATE role of Islamic Sciences. A schematic representation of the compositional make up is given as figure 7.

2- INPUTS

The second point of compositional significance is the grouping of the inputs that are introduced into the Studio/Workshop under three headings: Universal Concerns; Specific Concerns; and Communication Concerns.

Whilst studying the existing programmes a classification system was developed based on the common major groupings that seemed to be a common denominator of all these programmes. A detailed investigation did not uncover any rational wisdom behind the comparative weighting of any of the sub-groupings within these groups between different programmes. Thus "Humanities", "Technology", "Studios" and "Communications" as distinct areas, each itself being a linear collection of other independent specializations was not pursued as of any significant relevance to the

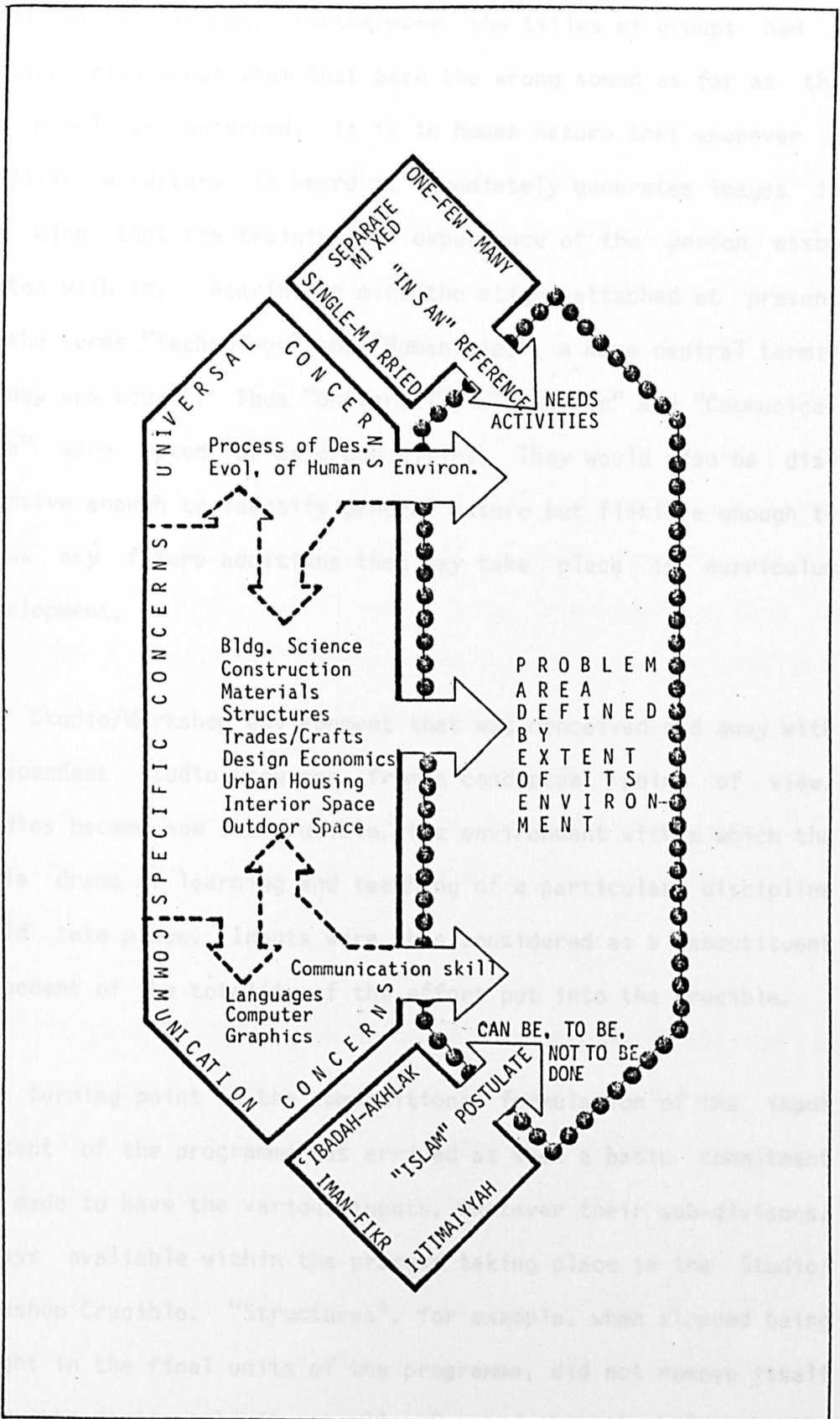


Figure 7. STRUCTURE OF A WAHDAH (UNIT).

model of Al-^cImārah. Furthermore the titles of groups had a distinct ring about them that gave the wrong sound as far as the new model was concerned. It is in human nature that whenever a familiar word/term is heard it immediately generates images in the mind that the training and experience of the person associates with it. Bearing in mind the stigma attached at present to the terms "Technology" and "Humanities", a more neutral terminology was sought. Thus "Universal", "Specific" and "Communication" were opted for as group titles. They would also be distinctive enough to identify general nature but flexible enough to allow any future additions that may take place in curriculum development.

The Studio/Workshop environment that was conceived did away with independent studio courses from a conceptual point of view. Studios became now the crucible, the environment within which the whole drama of learning and teaching of a particular discipline would take place. Inputs were thus considered as a constituent component of the totality of the effort put into the crucible.

The turning point in the compositional formulation of the input content of the programme was arrived at when a basic commitment was made to have the various inputs, whatever their sub-divisions, always available within the process taking place in the Studio/Workshop Crucible. "Structures", for example, when stopped being taught in the final units of the programme, did not remove itself from the design activity at all. Granted that it would not be addressed in depth as it would have been done at the earlier stages of the programme, it must be present in every effort of

design activity. This led to the formulation of the three concern areas.

These three groups have a logic of their own as will be identified in later sections. It is important to identify the significance of this not only in reference to the three groupings but also to the contents of the groups themselves. For example, an important element within the Universal Concerns is the course named "EVOLUTION OF THE HUMAN ENVIRONMENT" which replaces the familiar "History of Art and Architecture" courses in traditional schools and becomes one of the inputs of theory into the Studio/Workshop. In their traditional format these courses have no significant relevance to the studios except in their "stylistic stencil" roles. Here it will be conceived as having a universal role to the totality of the design process as well as be given a form that could be made use of in the design activity itself. It would relate directly to the problem area chosen for the Studio/Workshop.

This "history" related area is under very intense discussion and review in the Western Schools. In the Muslim world it is being taught as it was thirty years ago in England or Germany...mostly as an appreciation of princely or priestly monuments.

The proposed course will deal with the study of the formation and evolution of the built environment as a process of man's response to environmental factors in his interaction with nature. It will focus on the treatment, design, and composition of elements of the built environment not as separate disciplines of "Town Plan-

ning", "Landscape Architecture", "Urban Design", or "Architecture". Environment will be looked upon as a dynamic whole and evaluated historically according to criteria defined in Islamic System of Thought. Further attention will be given to this course later in the study.

3- SUMMER WORKSHOP

The third point that distinguishes the model compositionally from other schools is the introduction of a 'SUMMER WORKSHOP' in lieu of the summer training. Presently two periods of eight weeks training is mandatory to students of engineering and architecture at Saudi Universities. University of Petroleum and Minerals implements a Summer School Studio which in fact is a typical studio dealing with the subject of working drawings. However, a summer training whereby students are exposed to consultants practices is implemented there too. There have been intermittent criticisms as to the usefulness of the eight weeks spent with a contractor, or a consultant. British schools have the 'year out' system whilst in the states the practice varies but on the whole summer training is not valued very much.

As students are pledged to a practical training in the Teaching Practice there is no need for the 'professional training' component of standard schools during the summers. From this point of view summer workshop is a completely different entity and has a specific objective not found in traditional summer training courses. It has been conceived as the vehicle through which students will study the spatial aspects of the built environment as a

living entity and not as dead archaeological examples of a gloriously regal past age.

Two "Summer Workshops" have been developed for the Al-^cImārah project. Under the supervision of their tutors, students will study first a part of a local built environment. The second study will be made in a foreign Muslim country, aiming at an exposure of the students to the wider reality of the Islamic dimensions of the built environment. The first workshop will take place immediately after the second Remedial Unit (for the Spring semester intake of the University it will be after the first Remedial Unit), and the second workshop after the fourth Professional Unit (the third for the Spring intake).

It is of extreme importance to differentiate between geographic, climatic influences in different lands of Islam, which vary from place to place, and the wider dimension of criteria emanating from the system of thought of Islam itself. This is the dimension that seeing eyes can always perceive in a humble mud brick building of Mali in Africa or splendid layouts of Shalimar Gardens of Pakistan.

C- CONTEXTUAL ASPECTS

The conceptual basis of the Studio/Workshop provides the contextual organization of the same. Subjects are considered as inputs of the defined problem area and therefore contents given in relevance to the problem area. Theoretical input is introduced into the crucible of the Studio/Workshop in predetermined doses in relevance to the increasing complexity of the problem area and in

reference to other inputs. Thus all the information is made an integral constituent of the learning/experiencing activity of the student.

It was mentioned before that inputs were looked upon as being composed of three general areas of concern: Universal, Specific, and Communication. These areas will be detailed below together with the system of controls that will guide the teaching process in the Studio/workshop, the Wahdah.

1- UNIVERSAL CONCERNS.

Those subjects that did acquire or inherently had a universal role in the process of design were to be collected in this concern area. Two such subjects were conceived, the subjects of the PROCESS OF DESIGN and the EVOLUTION OF HUMAN ENVIRONMENT. The latter subject will be based on a number of environmental factors in response to which human beings shape the built environment. Different responses to same factors over different periods of time will be studied. These factors will also be those factors that the students will be asked to respond too in the problem area defined in that unit. A similar approach will be followed in the first subject as well. Processes of design with which students will be made familiar of will be referenced to these responses as well as the chosen problem area.

2- SPECIFIC CONCERNS.

The subjects that were specific in their relevance (though always performing a universal role in the design activity) would be

contained within this concern area. SPECIFIC CONCERNS groups together the subjects of BUILDING SCIENCE; CONSTRUCTION; MATERIALS; STRUCTURES; TRADES/CRAFTS; and ECONOMICS OF DESIGN AND CONSTRUCTION. The progression of these subjects will take place in a horizontal as well as a vertical direction. Horizontally they will be covered in their totality within the number of Studio/Workshop Units being divided up accordingly. Vertically they will relate and integrate with other courses. Stone or Timber as a material will be the subject in Building Science, construction, structures, trades/crafts as well as economics of Design and Construction. This vertical integration with horizontal progression will also be substantiated by being referred to the problem area defined for the unit and its acquisition by the student evaluated in its application to the problem area.

3- COMMUNICATION CONCERNS

COMMUNICATION CONCERNS is somewhat more amorphous in the subjects it groups together. ORAL as well WRITTEN communication in Arabic as well as English; GRAPHIC communications in different forms be it two or three dimensional representation or draughtsmanship; SPECIFICATION WRITING, DOCUMENTATION AND INFORMATION RETRIEVAL; as well as COMPUTER LITERACY and its UTILIZATION as a tool, make up the totality of these concerns. Similar to the previous Area of Concerns these subjects, whenever they are available within the structure of the units, (and they will always be present though at smaller doses in later units as far as teaching is concerned although application - if anything - will be more demanding), they will have vertical integration in addition to the horizontal progression. More important than this, their

application will be demanded within the problem area chosen for that particular unit and evaluated as such.

4- DIMENSIONS OF CONTROL

The STUDIO/WORKSHOP, as a TEACHING/INSTRUCTION unit will have four dimensions that control, define and guide the acquisition of skills and knowledge in successive units, as indicated below.

a. The Reference.

The first of these controlling elements, identified also as such earlier in the study, is INSĀN. At the beginning needs of one single individual are dealt with. Then needs of a number of men or women are looked into. Needs and activities of a single family follows next, gradually multiplying into a neighbourhood of a number of families, than a village, a town etc.

b. Postulate.

The second controlling element, is the sum total of the ordinances embodied in ISLAM. These relate to the relations and responsibilities between various combinations of insan defined in the first controlling dimension, and with it becomes the twin controlling elements. For example when a neighbourhood is considered, demands of Islam as regards the relationships and responsibilities of individuals, between themselves, amongst members of one family, and between different families are supplied for the consideration of the student in the design process.

c. Controlled/Correlated Input.

The third controlling dimension is the amount of input provided from the SPECIFIC, UNIVERSAL and COMMUNICATION concerns. Problems are devised so that they require students to respond to the amount of information provided in earlier units as well as those given in the unit of the problem in hand.

d. Complexity of Problem.

The fourth and final controlling dimension is achieved by manipulating with intent the degree of complexity of the problem area in the STUDIO/WORKSHOP. The projects that will be devised in different Studio/Workshop Units will have specific issues defined to be the unit's major characteristics or concerns. In this sense they are defined as the Problem Area. These issues are controlled so as to make the responses of students more directed to specific items of consideration that have been defined for the problem area. For example every problem area will have a number of dimensions that has to be addressed to. These are: NEEDS AND ACTIVITIES that will be sheltered; The nature and boundary of the ENVIRONMENT within which these needs will be sheltered, such as defined by the walls of a room, edge of a building plot, rural or urban setting, etc.; MATERIALS AND TECHNOLOGY available for putting up the shelter; SPACE/FORM implications such as openness, being enclosed, private, public, massive etc. In defining the extent of these the complexity of the problem area can be controlled to accord with the set goals for that unit. See figure 7. before.

5- ASCENDING/DESCENDING SCALE OF THEORY/PRACTICAL INPUTS

One more important device, contextually at variance with the existing practice is the descending/ascending time allocation to theoretical input and practical work of the studio. Traditionally there are set hours every week during which theoretical inputs are given to students. Having decided conceptually that theoretical inputs will not have independent aims and objectives but be integrated with the defined problem area it imposed upon the structure the need to provide the theoretical knowledge at the start of a particular studio/workshop project. Time scale and amount of inputs having been defined in proportions to accord with the progression of the successive studio/workshop units, it is further proportioned in each unit to accord with the projects defined for that unit. This being achieved, theoretical inputs are delivered in a step ladder fashion in a decreasing scale. There is more theoretical input in the beginning, gradually decreasing in favour of the design process that takes up little time at the beginning but has all the remaining time devoted to it towards the end of the project. This is represented schematically in figure 8.

Having considered these distinguishing aspects of the model, the sequential process that completes a full cycle of instruction can now be presented.

The two REMEDIAL UNITS is followed by a series of six PROFESSIONAL UNITS (See figure 9). Two SUMMER WORKSHOPS are taken at critical points in this sequence, one before entry into the professional units and the other after the fourth professional

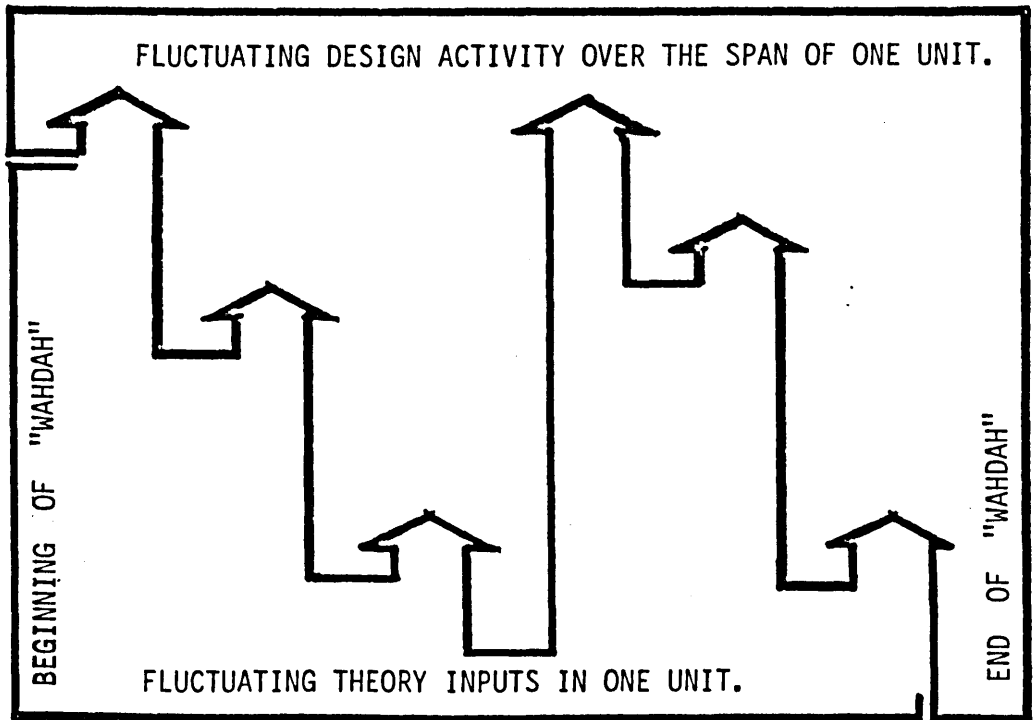
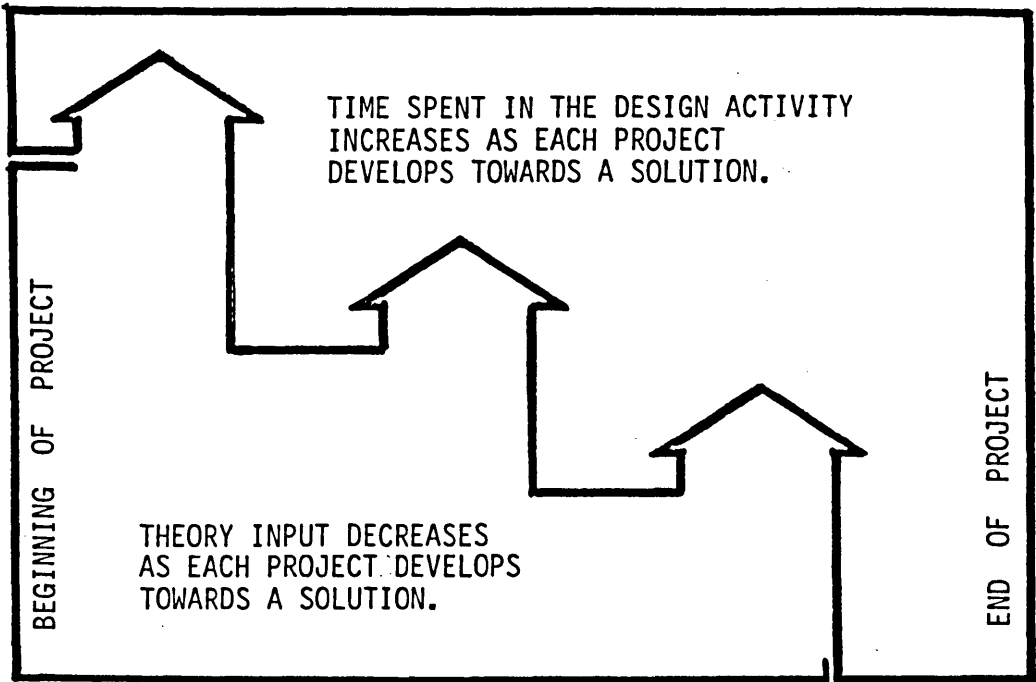


Figure 8. ASCENDING/DESCENDING INPUTS in one unit

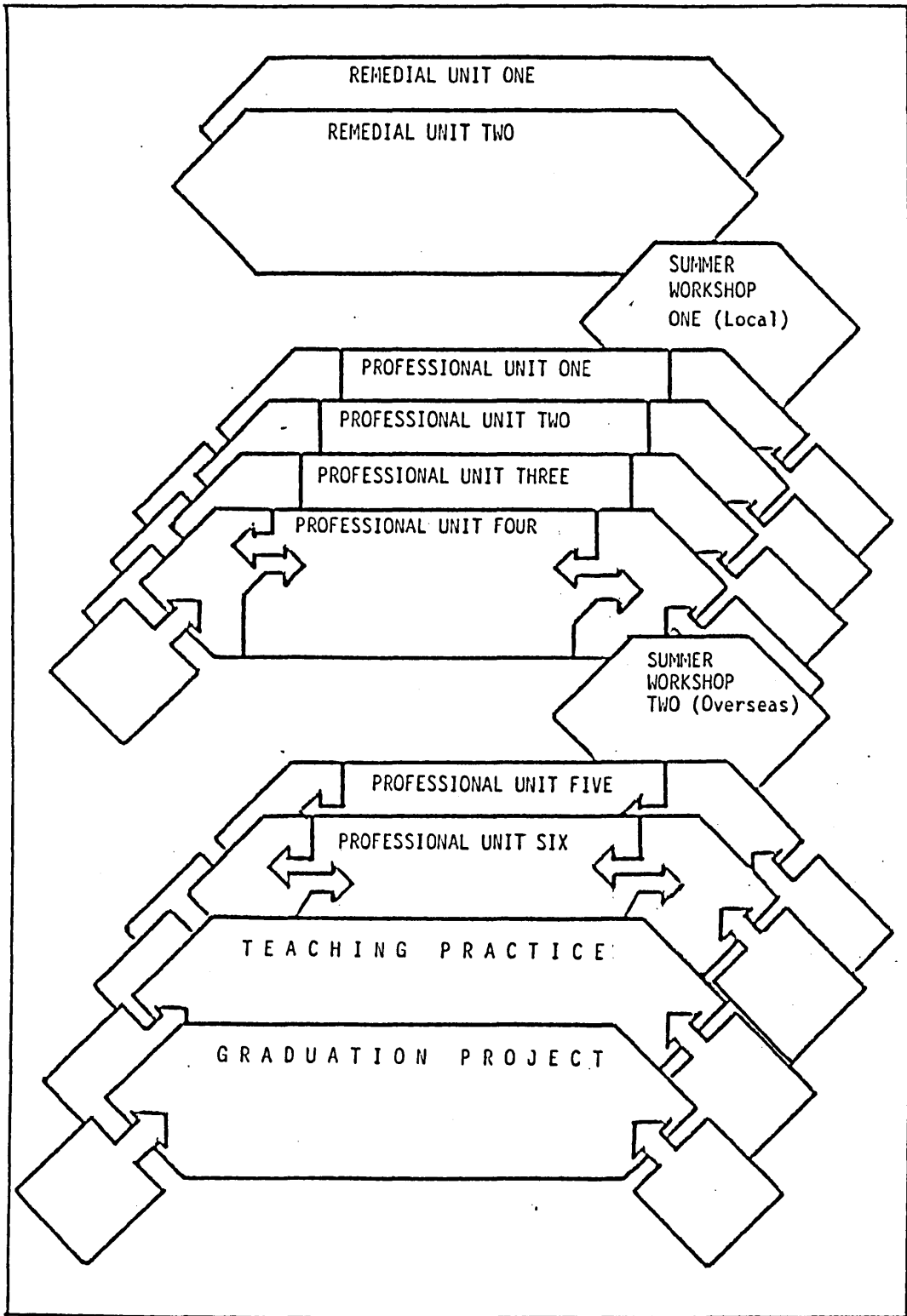


Figure 9. SEQUENTIAL PROGRESSION OF THE AL-'IMĀRAH PROGRAMME

unit. This is because of a compositional change in the professional units during the fifth and sixth ones, though not very critical on its own. At the end of Professional Units enough skill and knowledge would have been collected by students to make it possible for them to participate profitably in the TEACHING PRACTICE UNIT. Finally students come back to work on their GRADUATION PROJECT. This final act is used as the proof of the acquisition of minimum competence of a M^cIMĀRIH, by which title the designer will be known as.

iv- REMEDIAL UNITS COMPOSITION

The objective set out for the two units is also expressed clearly in its name. Based on the deficiencies of the secondary education as regards the kind of minimum knowledge required by the professional course of Al -Imārah, a structured programme will be implemented in order to remedy such deficiencies of the candidates for the professional courses.

Here a study was made of the secondary school curriculum and experimental mock tests carried out amongst those students who were admitted to the University of King Abdulaziz and wished to join The School of Environmental Design in Jeddah. Areas which were ascertained as being weak in relation to the programme were firstly in English Language skills. In line with the current national policy in higher education which prescribes that subjects in medicine and engineering be taught in English it would demand the lion's share in the remedial units. Though this requirement would hamper and slow down the process of learning it

had to be incorporated in the programme. It would have been preferable to do the teaching in Arabic and still retain the same amount of time for English Language skills so that a second language specially for technical purposes be acquired. A fear on the part of educational authorities that properly qualified teaching staff may not be available to implement the programme in Arabic could not be countered at lower levels of decision making.

This was followed by visual communication abilities of the students. Graphics or drawing, whether of a technical or fine art variety, did not form part of the secondary school curriculum at earlier stages of its development. Sensitivities against mediums with which human or animal forms could be represented was the main restraint against earlier incorporation of this area in to elementary and secondary school curricula. It is being introduced tentatively and slowly at present. In addition to lack of these skills, students suffered from a kind of visual pollution in the environment, without having developed a discriminating eye. The negative effects of this exposure has serious implications.

Thirdly came Physics and Mathematics, an area very much misunderstood and exacerbated in its problematic nature in present schools of Architecture. Attitudes to Mathematics has always been coloured with the sensitivities of engineers, due to most schools having been born into the academic world within Faculties of Engineering. To identify their special nature they have been titled as Mathematics and Physics for Mi^cmaris. Mathematics will be taught in the first unit where Arabic can also be used as a teaching medium to help students' acquisition of the concepts

quicker. It should also precede Physics as some of the concepts and knowledge will be prerequisite to that subject.

Islamic Sciences was the last but not the least area of weakness tackled. Teaching of religious knowledge at earlier levels of education was limited to standard texts dealing with practices and mostly dry and static. In the process of change from the traditional methods of learning that was not a governmental responsibility before and establishment of schools in a country-wide organized system of education left this area of the curriculum in a difficult position. It still needs to be revitalized by a study of the methodologies of teaching and content appropriate both to the subjects themselves, and to the totality of the system implemented in the secondary education. In view of the particular emphasis accorded to the prescriptive role of the faith to the programme of al-Imārah it was necessary to take up the subject with the seriousness it called for. Under the course title of "Foundation Course in Islamic Sciences" it would be specifically developed to clarify it as a system of thought so as to prepare the student to comprehend and absorb future courses on the topic in their role as a postulate in the professional units.

Two consecutive units are designed as Remedial Units, its structure and allocation of time being represented in figure .

The Remedial Unit courses were defined as:

1. ISLAMIC STUDIES I (AQAIID)
ISLAMIC STUDIES II (FIQH, SYSTEM OF THOUGHT)
2. FOUNDATION SCIENCES FOR MI^oMĀRIS I (CALCULUS)
FOUNDATION SCIENCES FOR MI^oMĀRIS II (PHYSICS)
3. ENGLISH LANGUAGE SKILLS I and II
4. ARABIC LITERATURE
5. VISUAL COMMUNICATION SKILLS I and II

SUMMER	FIRST REMEDIAL UNIT	SECOND REMEDIAL UNIT
CANDIDATE SELECTION	VISUAL COMMUNICATIONS I 10	VISUAL COMMUNICATIONS II 10
	ENGLISH LANGUAGE SKILLS I 20	ARABIC LITERATURE 3 ENGLISH LANGUAGE SKILLS II 17
	CALCULUS FOR MI ^Q MARI 4	PHYSICS FOR MI ^Q MARI 4
	ISLAMIC SCIENCES (AQID) 2	ISLAMIC SCIENCES (FIQH + FIKR) 2

Figure 10. STRUCTURE FOR CONTACT HOUR DISTRIBUTION TO COURSES IN REMEDAILMUNITS.

Units would run for a period of fifteen weeks corresponding to a unit of one semester of the Universities in the Kingdom. Although the setting of the studio/workshop, devised for the professional units, would be used as the spatial and formative enclosure of the remedial units too, these units will not have the kind of completely integrated structure as proposed for the Professional units, to suit its non-professional, remedial nature. However some degree of integration will be sought by choosing some of the task based components of the English Language course from the subjects dealt with in the Visual Communication course work. Terminologies to be come across in the other subject areas should somehow be responded to in these language programmes

v- COMPOSITION OF PROFESSIONAL UNITS

Structurally the concern areas of the Studio/Workshops defined earlier are adhered to with sub-division into individual courses, all being of a sequential composition as to be defined below. These courses would be developed in a horizontal progression within each unit, as well as between units, and at the same time attempt vertical integration between each other. The problem of basic knowledge particular to each course that is required in order to develop its relevance to design, the knowledge which by itself could not be vertically integrated nor applied to the problem area of the Studio/Workshop, will have to be introduced right at the beginning of each unit, or in each project within the unit, when the theoretical inputs are given the prime time. It would require the whole scenario of the unit to be charted and discussed before the unit starts, by the faculty who would be

participating as a group in the Studio/Workshop in co-operation with each other. Skill and knowledge that each course would be helping to regenerate in the conscious world of the students would be related to the problem area of the Studio/Workshop. Furthermore, the examination as regards its acquisition by the students would be tested in relevance to the project of the Studio/Workshop demanding further involvement of all the faculty in the totality of the units work.

A- FIRST FOUR PROFESSIONAL UNITS

The courses would have a sequential four unit progression completing the first stage in the development of the professional personality of the future Mi^cmārih. Their presence as individual entities in the list should not be misunderstood to imply independence of content and aims. Neither should inferences be made as regards the weighting in Credit or Contact Hours, a point that caused and will cause an amount of administrative complication in cases of discrepancy with the University policies regarding such matters. Presence of courses during four units is an indication that they are areas always present within the field of consideration in the design process. However, the time allocation to each area is a matter to be decided in the light of the totality of the skill/knowledge base that that area is defined to be loaded with. Thus "Materials" may not demand so much time or "Credit" weighting in comparison to say "Structures".

UNIVERSAL CONCERNS:

1. PROCESS OF DESIGN I, II, III, and IV
2. EVOLUTION OF THE HUMAN ENVIRONMENT I, II, III, and IV

SPECIFIC CONCERNS:

1. BUILDING SCIENCE I, II, III, and IV
2. CONSTRUCTION I, II, III, and IV
3. MATERIALS I, II, III, and IV
4. STRUCTURES I, II, III, and IV
5. TRADES WORKSHOP I, II, followed by Crafts Workshops
6. CRAFTS WORKSHOP I, and II
7. DESIGN ECONOMICS I, II, III, and IV

COMMUNICATION CONCERNS:

1. ENGLISH LANGUAGE I, II, III, and IV
2. TECHNICAL ARABIC I, II, III, and IV
3. COMMUNICATION SKILLS I, II, III, and IV

ISLAMIC SCIENCES CONCERN (POSTULATE ROLE):

1. ISLAMIC SCIENCES I, II, III, and IV

SOCIAL UNITS OF THE STUDIO/WORKSHOPS (REFERENCE ROLE)

1. FIRST UNIT: Needs and activities associated with one man and a few men, or a few women will be considered for developing the problem areas.
2. SECOND UNIT: Needs and activities associated with a family situation will be considered followed by needs arising from mixing, in limited numbers, of different sexes outside the family circumstances..
3. THIRD UNIT: Needs and activities of groups of families will be considered in devising the problem areas.
4. FOURTH UNIT: Needs and activities associated with units of settlements (villagers, townsfolk, etc.) will be considered in defining the complexity of the problem areas.

B- LAST TWO PROFESSIONAL UNITS

A certain amount of structural change takes place in the composition of the last two professional units. Universal Concern area expands to include aspects of the environment that have not been directly addressed to up to now in detail, though their consideration have not been left out of the general concern area.

Specific concerns are designed to be covered in their required totality in the four earlier units. However in keeping with the philosophy that design process would always be involved with the specifics all the time, a single course under the title of "Building Technology will remain within which aspects of the earlier Specific Concerns can be constantly addressed to.

Similarly, Communications Concern will expand further in its concerns to include a lot more of the computer technology in its wider dimensions of facilitating communications in all aspects of the design process. The course structure of these last two units will be as follows:

UNIVERSAL CONCERNS:

1. THEORY OF DESIGN I, and II
2. HOUSING, than URBAN DESIGN
3. INTERIOR SPACE DESIGN I, and II
4. OUTDOOR SPACE DESIGN I, and II

SPECIFIC CONCERNS:

1. BUILDING TECHNOLOGY I, and II (contains all of the seven concerns stated in the first four units.

COMMUNICATIONS CONCERNS:

1. TECHNICAL WRITTEN COMMUNICATION I, and II
2. COMPUTER APPLICATIONS I, and II

ISLAMIC SCIENCES CONCERN (POSTULATE ROLE):

1. ISLAMIC SCIENCES V, and VI

SOCIAL UNITS OF THE STUDIO/WORKSHOPS (REFERENCE ROLE):

1. FIFTH UNIT: Needs and activities connected with the community on a country wide basis will characterize the formulation of the problem areas in addition to all the smaller units that were considered earlier.
2. SIXTH UNIT: Needs and activities of man on an Ummah

basis will characterize the formulation of the problem areas in addition to the units considered earlier.

.vi- TEACHING PRACTICE UNIT

Teaching Practice was defined as a full fledged professional entity giving the kind of consultancy service to society as any other "architectural" consulting office, replicating the "Teaching Hospital" concept in Medical Schools. However, it would implement the totality of the concerns taught at the School and provide professional training to students after their completion of the sixth professional unit.

Students would be spending around a year in the unit being exposed to different aspects of the professional life. They will also be taking a subject that would be considered as part of the Communication Concern to be known as :

1. PROFESSIONAL PRACTICE AND PROJECT MANAGEMENT

vii- GRADUATION PROJECT UNIT

In the final Unit of the course the student will return back to the formal studies to spend around a year, this time developing a design for an approved project to prove his competence. There will not be any set courses except the kind of studies he may need to carry out in connection with his project. The project should be of such a size and composition so as to provide him with opportunity to indicate his competence in all the fields that he will be called upon to function in life.

NOTES ON CHAPTER SEVEN

1. Seyyed Hossein Nasr was one of the earliest thinkers who identified such a need. The following excerpt is taken from his keynote address to The Aga Khan Award for Architecture Seminar No. 1, covered at length in Chapter One.

"...To remedy this serious situation [greed of many western contractors and planners, who operate with the help of their Muslim counterparts to present plans and projects which manage to be most costly and not what is most Islamic], one cannot suggest a more obvious first step than the training of Islamic architects, men and woman who are committed to specifically Islamic architecture, rather than those who practice Western architecture with the claim that it is international, and who happen to be named Muhammad, Ahmad or Ali. ...

The establishment of such schools and institutions requires the revival of the Islamic arts and sciences, and the rediscovery of the spiritual and metaphysical principles of these arts and sciences. This means that, ultimately, Islamic architecture cannot be revived unless the contemporary Muslim is reborn, and the shackles of the Western cultural and philosophical domination are overthrown. The external world cannot be adorned with beauty, which is the theophany of the divine beauty, unless the inner man is adorned with those virtues (fada'il) and forms of wisdom which have always characterized the creative scholars and artists within the Islamic civilization. The task remains a vast one. But one can always begin with the training of a few. One can hope and pray that their personal example, and the beauty of works they create according to Islamic principles, will serve as a light which will transform the darkness. That darkness, which pervades the life of the westernized Muslim and the urban environment in which he lives, can be changed into the crystallization of light and elaboration of harmony with authentic Islamic art and architecture have always been and will always be.

See, Renata Holod (ed.), Proceedings of Seminar One, Architectural Transformation in the Islamic World", held at Aiglemont, Gouvieux, France, April 1978. pp.

- 2 Formulation of the model was first presented as a paper at a Conference organized by the Arab Urban Development Institute and Istanbul Metropolitan Municipality. See H. M. Ateshin, N. Cebeci, and A. Eyuze 'Concepts and Concerns for the Training of Designers of the Islamic Built-Environments', Conference on the Preservation of Cultural Heritage of Islamic Cities, Istanbul, (April 1985).
- 3 Isma'îl Rajî al Faruqî, Tawhîd: Its Implications for Thought and Life, (Washington: International Institute of Islamic Thought, 1402 AH/1982 AC), pp.98-121.
- 4 N.C.A.R.B. Examination Validation Study, (Washington: National Council for Architectural Registration Boards, 1981).

See also Joseph Esherick 'The Profession of Architecture', Journal of Architectural Education, Fall 1984, 38 No. 1, p.26-29

- 5 R.I.B.A., Guidance Notes and Regulations, (London: RIBA Publications Ltd., December 1975-Revision amended January 1983).
- 6 K. Patricia Cross, 'Occupations and Excellence', Dialogue, (Washington: United States Information Agency), no. 27 (April-June, 1975), 40-49.
- 7 Ibid.,
- 8 New Secondary School Curriculum promulgated by the Council of Minister's Decision No. 85 dated 11.3.1405 (1985) concerningt the organisation of the developed curricula of secondary schools. It gives detail information as regards toareas od study, courses of study, hours of study. It also intro- duces a system of electrives within the secondary school education as well.

CHAPTER EIGHT:

CONTENTS OF SELECTED COURSES OF THE AL-‘IMĀRAH PROGRAMME

...In developing a fresh understanding of Islam, in adjusting to change, we need a number of intellectual tools. We need to develop a tradition of Muslim scholarship that combines the best techniques of traditional scholarship with those of modern methods of study and research. We have to develop new paradigms and theories that derive their strength from the Absolute Reference Frame on one hand, and provide a framework for analysis and articulation at the level of depth required on the other.

...We have to develop theories which differentiate between desirable and undesirable change. These theories must provide guidelines for such questions as: what does it require to survive (as Muslims) unchanged? What will be the consequences of not adjusting to certain types of change?..What are the mechanics of diffusion of alien norms and values in Muslim societies? How can the process be reversed?...How can we be sure that the change we desire will lead Muslim societies towards a state of Islam? Et cetera.

...The role of Muslim scientists, social scientists and scholars does not stop at just developing analytical theories. We have also to develop within the epistemology of Islam alternate models and paradigms - in all fields of human endeavour. And more than that, we have to find paths towards operationalising these models...

Ziauddin Sardar, The Future of Muslim Civilization, (London: Croom Helm, 1979), p. 122.

It would be very presumptuous for any single person to consider coming up with a detailed proposal for a complete programme that includes fully developed courses. This is especially so in a proposal that deliberately tried to avoid any kind of carbon copy replication without justification. It is also from an intense realization of the seriousness of the issue that the structure outlined earlier has been devised to have in-built within it a Research Unit. Apart from the individual research interests of the faculty, the unit would have the authority and required

resources so as to direct the attention of the faculty in the first place towards the development of programme courses. This would be the primary task of the Research Unit.

However, here the first WAHDAH (Professional Unit), and two of the proposed courses that are vital for operationalising the model outlined earlier chapter will be presented in outline format. Texts, teaching material and textbooks have to be developed and assembled by the faculty in relevance to the whole programme.

As outlined before in Chapter Seven the UNIVERSAL CONCERNS had two areas assigned for itself in the first four professional units. These were the PROCESS OF DESIGN, and the EVOLUTION OF THE HUMAN ENVIRONMENT. The second one of these was given detailed attention due to its unique nature and will be presented here. One other course that is considered to be of significance is the SUMMER WORKSHOP which will also be presented.

However, before these, the first Professional Unit will be taken up and a complete scenario developed for it as an illustration of how the Wahdahs are conceived to function. The structure to be outlined should not be looked upon as a straight-jacket but as a framework format which could be built upon and re-aligned as long as the conceptual and contextual aspects are adhered to. For example, it is feasible that instead of having three projects for the first Wahdah four projects can be formulated each running consecutively for 3 weeks + 3 weeks + 4 weeks + 4 weeks. Consequently the constraints in figure 11 below will have to be

revised for the projects. Similarly, contact hour assignments in figure 12 as well as course contents as they relate to the projects' timing in figure 13 will also need an appropriate revision.

i- THE FIRST WAHDAH (PROFESSIONAL UNIT)

Various aspects of the Wahdah will be expounded below for a fuller understanding of its structure and interrelationships between its different elements.

A- CONSTRAINTS OF THE WAHDAH

A template defining the scope as well as the constraints of the first Wahdah is provided in figure 11 below. Three projects are suggested, each successively taking more time to complete. The projects will be formulated at the beginning of the unit by the Co-ordinator for the Wahdah.

B- CONTACT HOUR DISTRIBUTION OF THE WAHDAH

A second template is provided in figure 12 which allocates the basic distribution of contact hours for the concern areas on a weekly basis on the assumption that a 35 hour week is implemented at the School. Depending on the length of each project, total contact hours are reassigned in an ascending/descending scale for each week. Tutors dealing with different subjects within the three concern areas will be provided with the defined problem area in the form of the three projects and asked to formulate the descending inputs assigned for the projects.

C- COURSE CONTENTS OF THE FIRST WAHDAH

Depending on the number of the projects and the time span of each project, the totality of the content of the particular subject for the whole unit will be organised by the responsible tutor, identifying the basic knowledge component of his subject that needs to be covered at the beginning without any particular relevance to the problem area of the unit, and the remaining components of the subject area which has to be related to the problem area of the unit.

From a logistics point of view a new time table will be prepared for each week identifying the days and periods when each subject of the concern area will be addressed to. An important element that may need constant reminding to the staff involved is the need for the subject tutors to take part in later weeks in the design activity, monitoring the application of the knowledge that they have been exposing to the students, in the problem area under consideration.

A third template is provided as Figure 13 which indicates how the course contents of each subject area is proposed to be composed in relation to the projects.^[1] These will need to be re-defined for each week of the project as well by the tutor concerned. A joint meeting of the tutors in advance of the starting of the project should achieve further clarification of the vertical links as well as horizontal progression of the course contents. The importance of the coordination and cooperation between the staff involved in order to achieve the required smooth functioning of the process can not be overstressed.

FIGURE 11. DEGREES OF CONSTRAINT FOR THE FIRST WAHDAH

LIMITATION TO MIX AND NUMBER OF INSAN	WEEKS .1.2.3. 4.5.6.7. 8.9.0.1.2.3.4.		
	ONE MAN	ONE MAN + OTHERS	MORE THAN ONE MAN OR WOMAN
	1ST PRJ	2ND PRJ	3RD PRJ
<p>FIRST PROJECT: Limited natural environment; one climatic factor as constraint; one need (protection or shelter); single space with limited activity (semi open/semi close). Form related to function of space. Local technology, unskilled, unspecialised hand labour; limited hand tools.</p>			
<p>SECOND PROJECT: Local natural environment; more than one, (opposing) constraints: limited activity in a single space (completely open or closed). Form dictated by function. Local technology, unskilled unspecialised labour, simple tools.</p>			
<p>THIRD PROJECT: Local man-made environment; (no traffic problems); few constraints; few needs - limited activities in more than one but similar (repetitive) spaces having special links; Forms related to construction. Local technology, some specialization.</p>			

FIGURE 12. CONTACT HOUR ASSIGNMENTS PER WEEK FOR 1ST PROJECT

CONCERN AREAS	PER WK.	TOTAL	1ST WK.	2ND WK.	3RD WK.
UNIVERSAL CONCERNS:	6	18	8	6	4
PROCESS OF DESIGN	2	6	3	2	1
EVOLUTION OF HUMAN ENV.	3	9	4	3	2
ISLAMIC SCIENCES I	1	3	1	1	1
SPECIFIC CONCERNS:	15	45	21	15	9
BUILDING SCIENCE I	3	9	4	3	2
CONSTRUCTION I	3	9	4	3	2
MATERIALS I	2	6	3	2	1
STRUCTURES I	3	9	4	3	2
TRADE WORKSHOPS I	3	9	4	3	2
ECONOMICS OF DESIGN I	1	3	2	1	-
COMMUNICATION CONCERNS:	2	6	2	2	2
ENGLISH LANGUAGE	1	3	1	1	1
COMMUNICATION SKILLS I	1	3	1	1	1
PROJECT WORK	12	36	4	12	20

FIGURE 13. COURSE CONTENTS AS RELATED TO PROJECTS IN FIRST WAHDAH

PROJECTS, AND WEEKS ASSIGNED TO PROJECTS	1ST.PRJ. 1 to 3	2ND.PRJ. 4 to 7	3RD.PRJ. 8 to 14
<p>PROCESS OF DESIGN</p> <ol style="list-style-type: none"> <li data-bbox="211 422 961 583">1. How to define a problem in the field of built environment: human needs, associated activities, spatial enclosure, visible and invisible boundaries as limits and constraints. "Design" as a concept of initiating a change in man-made things, in this case the built environment. <li data-bbox="211 611 1081 709">2. "Problem" and "Programme" relationships dealing with the need/activity/facility/function patterns. Comprehension of the design activity as a process and definition of the problem as a programme. <li data-bbox="211 772 1195 898">3. Introducing the concept of Analysis (breaking down of a problem in its constituent elements, relationships and organizational principles) and the concept of Synthesis (putting together elements and parts so as to form a whole). 			
<p>EVOLUTION OF THE BUILT ENVIRONMENT</p> <ol style="list-style-type: none"> <li data-bbox="211 1031 961 1157">1. Identification of the built environment as being the result of man's work upon the natural environment in response to a number of factors. "Land" as a natural factor to be dealt with. <li data-bbox="211 1192 1081 1255">2. Man's response to two factors, those of "Location" and "Topography", throughout different ages as well as in different cultures. <li data-bbox="211 1283 1195 1402">3. Man's response to "Climate" as a major factor throughout different climatic zones and cultures. In addressing to the response to Climate the role that "Location" and "Topography" has also played in this response should be identified. 			
<p>ISLAMIC SCIENCES (SOCIOLOGY-ETHICS)</p> <p>The nature of the problem area will determine the nature of inputs.</p> <ol style="list-style-type: none"> <li data-bbox="211 1598 961 1696">1. Built environment as defined in Islam, and principles related to its formation. The role of Islam in its evolution. <li data-bbox="211 1724 1081 1787">2. Responsibilities of man towards society, nature and the Creator. His limits as well as duties in its utilization. <li data-bbox="211 1822 1195 1948">3. Obligations of the individual towards those with whom he shares the same dwelling. Ethics as well as injunctions pertaining to needs and activities associated with individuals as a private person and with groups as mutually dependent community. 			

FIGURE 1 (CONT.) COURSE CONTENTS AS RELATED TO PROJECTS IN FIRST WAHDAH

PROJECTS, AND WEEKS ASSIGNED TO PROJECTS	1ST.PRJ. 1 to 3	2ND.PRJ. 4 to 7	3RD.PRJ. 8 to 14
<p>BUILDING SCIENCE</p> <p>1. The concept of physical comfort of human beings, the relative and absolute comfort, and significance of the environment in the perception of comfort. Modification of the natural environment to effect the comfort and the science that aids man's effort in this venture.</p> <p>2. Effect on comfort of heat, humidity, cold, light, and sound. Control of the environment by directing, deflecting or excluding natural elements.</p> <p>3. Building materials, (natural as well as manufactured) as enhancers or aggravators of the physical comfort. Thermal (heating and cooling) considerations in the built environment.</p>			
<p>CONSTRUCTION</p> <p>1. Construction as a process assembly which aims at the realization of a suitable enclosure within which man can carry out his needs and activities. Aspects of safety considered.</p> <p>2. Aspects of environmental performance, cost and dimensional considerations in assembly. Demands of materials upon such considerations.</p> <p>3. External envelope of a spatial structure: Foundations as the boundary of connection/support between building and earth; basement as a subterranean space; lower floor, solid/suspended floors. Design data related to the above.</p>			
<p>MATERIALS</p> <p>1. Natural and manufactured materials. Strength and other properties of materials as a decisive factor in their choice.</p> <p>2. Manufactured natural materials, their shapes, sizes, conversion into usable units. Constructional forms of materials and their functional use in different parts of buildings.</p> <p>3. Stone and timber as building materials. Their natural formation, varieties, physical properties, manufactured forms, types of finishes applicable upon them, functional use in parts of building.</p>			

FIGURE 1 (CONT.) COURSE CONTENTS AS RELATED TO PROJECTS IN FIRST WAHDAH

PROJECTS, AND WEEKS ASSIGNED TO PROJECTS	1ST.PRJ. 1 to 3	2ND.PRJ. 4 to 7	3RD.PRJ. 8 to 14
<p>STRUCTURES</p> <p>1. Concepts of force and load (dead and live loads); basic structural elements and associated controlling forces and stresses (columns, walls, beams, ties, and compression, tension, shear, buckling).</p>			
<p>2. Use of materials in tension and compression in columns and ties. Generation of compressive and tensional forces in structural elements and their neutralization.</p>			
<p>3. Use of materials in bending in beams and floors. Generation of bending forces in structures and their dissipation; joints and supports.</p>			
<p>TRADES WORKSHOPS</p> <p>1. Use of hand skills and tools in different trades associated with the built environment. The need to develop such skills and usage of tools and an understanding of their workings in order to cope with the design process. Introduction to carpentry and building workshops.</p>			
<p>2. Basic exercises in use of hand tools, and handling of materials in the two workshops. Awareness of the reality in materials as addressed to in other subjects.</p>			
<p>3. Attempts at producing different products in the workshops so as to become familiar with the construction, physical properties, and handling of materials.</p>			
<p>ECONOMY OF DESIGN</p> <p>1. Cost as the sum of material, labour and overheads. How these affect the design process. Basic means of mensuration as a means of ascertaining/estimating quantities.</p>			
<p>2. Aspects of geometry in limiting, increasing of material use and labour needed.</p>			
<p>3. The effect of constructional techniques, use of different forms and combination of materials on the economy of design. Appropriate use of available resources in the design.</p>			

FIGURE (CONT.) COURSE CONTENTS AS RELATED TO PROJECTS IN FIRST WAHDAH

PROJECTS, AND WEEKS ASSIGNED TO PROJECTS	1ST.PRJ. 1 to 3	2ND.PRJ. 4 to 7	3RD.PRJ. 8 to 14
ENGLISH LANGUAGE SKILLS			
As will be required by the Concern inputs and the Problem Areas defined for the projects. Specification writing will also be considered in relation to the relevant concern areas. In addition to written work, oral communication in presentation will also be judged on pertinent work carried out in the Wahdah.			
COMMUNICATION SKILLS			
1. Project documentation as a means of classifying, storing and retrieving data pertaining to drawings will be addressed to. CI/SFB system will be adopted in drawing as well as document classification. Graphic presentations both in drawings as well as presentation of reports and other data will be addressed to within this concern.			

D- PROJECTS FOR THE FIRST WAHDAH

When the time for the implementation of the first Wahdah was arrived at three projects were developed to act as the problem areas within which the teaching activity would take place. These are detailed below in order to illustrate one possible application.^[2]

First Project: It was conceived to run for three weeks and be a "Summer Shelter for a Watchman" in the open agricultural fields, made of timber. It would be used day and night to keep watch over the fields and would be semi-enclosed/semi-open shelter within which sitting, standing or sleeping would be possible.

Climatic factors were stated to be present with minimal demands with the exception of the sun against which the shelter was

sought. Temperatures around 40 deg. C during the day and 27 deg. C at night, with a slight wind at around 10 km./hr. blowing from a North West direction were also given.

Second Project: It was conceived to run for four weeks and be a shelter for a shepherd and his flock of 22 sheep and 10 goats. It would be used for sleeping, resting and of course for performing the daily salāt as well as for simple cooking facilities together with a simple water closet. An open and closed area would be required for the animals with necessary food storage for them.

A site plan indicated the shape of the terrain and gave the direction of prevailing wind, usual direction of sandstorms, temperature range as 3-40 degrees C. and specified heavy rains between January and May. Thus rain became an additional factor to the sun of the previous project.

Locally available sand stone blocks with possibility of obtaining slate and poplar trunks at a reasonable distance were specified as the building materials, all these being available ready for use.

Third Project: It was conceived to run for seven weeks. Two projects were devised each to be tackled by one half of the students of the unit. (a) A shelter to accommodate 12 agricultural experts and two supervisors working for the improvement of orange and lemon groves of the village of Al-Alāwah/Turabah, and (b) A shelter for 12 women trainees with two supervisors. The women supervisors will also be staying in the building and during

the working hours of the day instruct the trainees in sewing. In the case of agricultural experts sleeping accommodation for each three persons would be provided. Three water closets and two bathrooms were required. A kitchen, a dining room, a rest room with a storage space were also to be provided.

Privacy of the unit, being in the built up area of the village was important. Hierarchy of public, semi-public and private areas was required to be defined in conformity with the established patterns in the village. Height of the building should not exceed 5.80 meters on the street front.

The village of Turabah has characteristics of a "desert climate" though high upon the mountains. Summer, winter and mean annual temperatures were given together with the rainfall and directions of the wind. Winds would be carrying dust at times and cause damage to crops.

Mud brick was the main building material but burned bricks became available and was to be preferred. Stone and timber could be used but had to be justified. For roof, clay tiles were available. Structurally load bearing brick walls and the use of arches, vaults and domes would be investigated.

In each of the above projects the means of graphic communication and their nature were also specified by their scaled plans, sections, elevations, model etc. Based on the projects, their limits and constraints and specified objectives, the whole unit would be pre-planned together with the inputs and thus every

tutor be made aware of other's inputs, supporting and supplementing each other in the teaching process.

ii- EVOLUTION OF THE HUMAN ENVIRONMENT SERIES

This concern, together with the "Process of Design" within the Universal concerns, will be the central focus to all the studio/workshop activities. It will be explained in detail below.

A- GENERAL CONCEPT FOR THE COURSE

This concern, together with the "Process of Design" within the Universal Concerns, will be the central focus to all the studio/workshop activities. The particular significance of the course is the adoption of the non-chronological way of treating the evolution of the man-shaped environment and avoiding the typical history of art and architectural courses both in methodology of delivery, content, and ultimate aim and objective. It will be a kind of "Architectural History" but with a very clear difference. Major attribute of this course will be the adoption of a particular form that will facilitate its incorporation as an "input" to the Studio projects.

In fact the whole idea arises from an attitude that Islam has towards History in contrast to views of history developed under the influences and inspiration of western Scholarship.

The Qur'an, as the major source of history for Muslims, looks

upon history as a case-study of Tawhīd (the unicity of Allah - see glossary), and charts the ways that lead to Tawhīd, notes the efforts exerted to achieve Tawhīd, and points when and how man was led astray from the path of Tawhīd. This is one of the basic tenets of the faith. Subscribing to the concept of Tawhīd commits man to an ethical action to disturb the flow of space-time with intent. He is committed to get entangled with history and intentionally set forth to transform the materials of creation, be they people, land, building or a settlements large or small. The statement in the Qur'an is very specific:

O people! Serve Allah alone. You have no god other than Him. It is He Who established you on earth that you may reconstruct (wast'amarā) it [according to His pattern]. Do seek His forgiveness and repent to Him. He is our Lord, near and responsive [to those who call His mercy]. 11:61

The particular word used in the Qur'an is wast'amarā, from the same root word of 'omr, the root from which Al-Imārah is generated. Thus filling any single unit of the universe that man is placed upon with a value laden act (and product) is the whole business of dīn (religion). In this sense history is very critical for a Muslim for it is the chronicle which records his every day acts in the arena of the universe. What it contains is his his examination, the essence as well as the substance of his being in the world. He is obliged to interact with the processes of nature in the light of history, knowingly and willingly, and be judged by his achievements and failures in history.

The concept of Tawhīd would be conveyed to the student in the system of thought defined by Islam during a separate sequence of lectures. History would not be teaching the thought system,

(which it can't), but will be used to bring the realization of the system of thought to the student. It will be the tool to bring about the confidence or the tranquillity of the mind in relation to the system of thought. It is not easy to absorb the principles to be enunciated in Islam's system of thought for man finds it hard to absorb abstractions. To facilitate the understanding of these abstractions concrete examples must be used. History is the medium which would bring about a deeper and conscious understanding of the System of Thought of Islam.

To reach the final point of total understanding of Tawhīd would not be possible in one step. There would be need to approach the goal step by step, thus bringing about an understanding of the development process and the position accorded to the development process by Islam. The ascent of the road should be towards perfection and not towards degeneration. Perfection would only be possible in submitting to the will of Allah. There is a pedagogical need to see and to follow each step taken along this path by man so that one builds an attitude as well as understanding of the goal of perfection, based on the experiences lived by the human race, specifically in shaping his environment. Along this road of tawhīd, the supremacy of the Divine will and the all encompassing nature of the Creation should become infused in the mind of the student.

There is a tendency in man to go against the creation, and history has identified many a point of misery and suffering as a direct result of this action. Al-Imārah is understood to be the facilitation of the existence and the well being of the society.

This facilitation cannot be achieved by going against Creation. It can only happen by observing and moving along WITH the Creation. Man should comprehend the Creation through the will of the Creator so as to be able to follow it. Comprehension, if attempted by the dictates of our minds will indeed lead to sorrow and suffering. Submission, and not opposition should be the rule in one's attitude to the Creation.

"The Evolution of the Human Environment" would then be studied by identifying how man strives along or outside this path, in harmony with or in opposition to the natural order of things. The study of the evolution of the human environment will aim at evaluating and identifying correctly the point reached today in relation to the point defined by Wahy and Sunnah.

There is always a measure for all things. Lengths are measured by meter, liquids by litre etc. In the measure and evaluation of incidents or actions taking place in the evolution of the human environment, if Islam's own views, principles, and criteria are taken as the measure and scale, instead of those developed by other systems of thought, we would have achieved the required mental formation of our students in their path of acquiring the skills and knowledge content of a Mi^cmāri.

B- AIMS AND OBJECTIVES^[3]

1. AIMS:

The course will deal with the study of the formation and evolution of the human environment throughout time as the process of man's response to environmental factors (variables) in his interaction with nature. It will focus on the articulation of the

design composed of the elements of the built environment. The issues involved are of such a nature that they need to be covered within a cross-cultural and regional context with additional emphasis on Islamic principles and the Muslim world. In this regard, the neglected "vernacular" sector of the built-environment will also be given the attention it has been denied in the past. The study will inevitably deviate from conventional studies of the history of the built environment and take into consideration the products in the light of processes, without going into descriptive physical details.

The sequence of courses will be aiming at developing an understanding of the wholeness and dynamics of the built environment and an appreciation of the roles, interdependence and necessary co-operation of the environmental design disciplines in our contemporary world.

OBJECTIVES:

Upon completing the course the students should have developed a number of abilities that are directly related to and usable in the design activity. A number of these can be listed:

- a- To know the elements of the built environment, the factors behind the built environment, and to comprehend the composition and the roles of these factors in the formation and evolution of the elements of the built environment.
- b- To identify the elements of any piece of human settlement.
- c- To analyse a particular piece of built environment, identify the roles that are played by factors behind the

formation of its elements and composition.

d-To analyse the nature of man's response to environmental factors, differentiate between rational and irrational responses of man in his efforts in shaping the built environment.

C- NATURE AND CONTENT OF THE COURSES

The number of factors chosen for this concern will be organised in a format so as to leave the more difficult ones to later Professional Units. The Problem Areas chosen for study in the Units will also require the deeper consideration of one of the specific factors in the list. The knowledge gained from considering this factor will then be used for application in the Problem Area... Each successive exercise will require that all previously dealt factors be borne in mind in developing a proposal but pay extra attention to the factor that has been recently studied. Following is a preliminary listing of what are considered as elements and factors.

1. Elements of the built environment:

Solids- Topographic elements, vegetation (natural); Buildings, transport structures, other structures, plantation, art works, vehicles, building components (man-made).

Voids- Topographic elements, water, surfaces (natural); transportation channels, open areas, water surfaces (man-made).

2. Factors behind the human environment:

FIRST PROFESSIONAL UNIT:

Natural: Climate; Topography; Location; Land; Natural materials.

SECOND PROFESSIONAL UNIT:

Social: Religion; Tradition; Norms; Way of life;

THIRD PROFESSIONAL UNIT:

Social: Social institutions (Zakah, sadaqah, awqaf, rubat); Politics; Economics.

FOURTH PROFESSIONAL UNIT:

Technological: Communication; Transportation; Construction; Environmental control; Landscaping.

D. METHOD OF DELIVERY

There are a variety of means available in the modern classrooms to aid the delivery of course material. One area which has been entertained was the making of audio-visual packages to cover each one of these factors, which could be made available to the students all the time in the Resource Unit.

Depending on the Problem Areas of the first four units, the factors will be introduced one by one, those more easy to understand preceding the difficult ones. During the first four Professional Units all the factors will have been covered but their relevance will still remain in the last two, though no formal input will be supplied. Audio-visual packages that are hoped to be available in the Resource Unit could be utilized by the

students during these last two units as well. However, students will still be evaluated under this concern in the fifth and six units in their studio work, and not in separate subject material.

iii- SUMMER WORKSHOPS (COMPARATIVE ENVIRONMENT/SPACE ANALYSIS)

A- INTRODUCTION TO THE COURSE

The workshops are intended to bring the students into close and intimate contact with a part of the built environment that still retains a link with the past and as well as a relevance to the present as a setting suitable for living an acceptable way of life. Suitability would be judged from the point of view of concerns that the School will be dealing with. The workshop will be implemented first in Saudi Arabia to expose to students the local components of Al-^cImārah that they will be dealing with in their professional life in future.

A second workshop will be organized later in the course to take place in another Muslim country. A similar study will be made to expose to students the universal components of Al-^cImārah that they will have to deal with in their future studies.

One of the major social functions of the course work is embodied in the aim of arranging for faculty and students to live and work together during these workshops. It is hoped that by doing so a more direct understanding will be reached between them for purposes of better teaching and evaluating.

B- OBJECTIVES OF THE COURSES^[4]

The following objectives are suggested to be adopted for this course: The objectives aim at developing a number of skills and abilities. The order does not have any significance as such as all the skills are expected to be put into use individually or together.

1. To develop in the students descriptive, analytical, and interpretative skills in tackling the problems pertaining to the built environment and its elements.
2. To develop an understanding of basic factors affecting the evolution of the built environment and the formation of an architectural end-product.
3. To develop an ability to translate the architectural principles and vocabulary of the past to the solution of actual problem situations.
4. To develop an understanding of the architectural language of a specific locality. (national or another Islamic country).
5. To develop the necessary skills for site and building survey, analysis and documentation.
6. To provide the SCHOOL OF AL-^UIMĀRAH of Umm al Qura University with documentary materials (drawings, slides, photographs, video tapes etc.) for enriching its Resource Unit.

C- CONTENTS OF THE COURSES

In order to facilitate the achievement of above objectives the following course content was proposed. The length of the Summer Workshop was presumed to be eight weeks. Thus the content would be implemented over this span of time.

1. Description and analysis of the elements of built environment: natural; man-made; solids (building blocks); open spaces, channel spaces.
2. Description and analysis of the qualities pertaining to the built environment and its elements: pattern (solid-void; open-closed); texture; access and links; third dimension; orientation; spatial sequences (public - semi-public - private); land; land ownership patterns; building codes (public/non-public).
3. Factors affecting the evolution of built environment: natural; social/religious; cultural; economic; technological; administrative.
4. Description and analysis of buildings and building elements:
 - a) Buildings as constituent elements of the built environment;
 - b) Buildings as spatial organization patterns:
 - i) activity spaces - channel spaces.
 - ii) spatial links and accesses (open-closed)
 - c) Buildings as technological end-products:
 - i) building elements - carrying, spanning, covering, opening, details, decorating.
 - ii) building production technique and materials.
 - iii) local hand labour and skills - visual quality of buildings.
- 5 Factors affecting the formation of an architectural end-product such as: needs, activities, functions catered for; social, cultural and economic aspects; natural habitat of the locality; local materials and technologies.

As a concluding item, an interpretation of all the above-mention-

ed factors affecting the built environment and its elements in a given chosen locality should be attempted.

D- METHODOLOGY OF COURSE

There is nothing novel in the proposed methodology. It is proposed to consist of:

1. Site surveys and analysis comprising filming, photographing, mapping, measuring, drawing, sample material collection.
2. Preparation of the material collected in the site for presentations.
3. Report and graphical presentation of the interpretations.
4. Documentation.

After having selected a particular site suitable for the workshop, the survey and analysis work is suggested to be carried out in the following format. The programme can operate on two dimensions, one being the particular individual product in the form of building(s) and the other, the environment within a defined outer boundary within which building(s) is/are sited. The exercise is suggested to be implemented through three phases as follows.

PHASE I - DESCRIPTIONS

THE ENVIRONMENT

1. Description of the natural and man-made elements of the built environment.
2. Description of the solid-void pattern (open and closed spaces).
3. Description of the third dimension: site sections, sections,

site elevations, elevations.

4. Land-use differentiations.

THE BUILDING(S)

5. (Description) measured drawings of selected buildings: plans, sections, elevations, details and (decorative parts).

6. Measurement of performance of building(s) (humidity, heat, illumination, durability).

PHASE II - ANALYSIS

THE ENVIRONMENT

1. Analysis of the different spatial hierarchies in the built environment: Closed/open and semi-open spaces; Public/private and semi public places; Activity spaces, channel spaces and their hierarchies.

2. Analysis of spatial sequences.

3. Analysis of the responses of the built environment to different environmental constraints: Topography; Climatic - sun, wind, precipitation etc.

4. Analysis of land ownership patterns and building codes.

THE BUILDING(S)

5. Building analysis.

a) Spatial organization analysis: access and links; response to the environment (solid void relationships); inner space organization principles.

b) Technological analysis: structure; construction methods & building elements; materials; environmental control devices.

PHASE III - INTERPRETATION

THE ENVIRONMENT

1. Interpretation of the surveyed built environment based on the following concerns: natural; social/religious; cultural; economic; technological; administrative.

THE BUILDING(S)

1. Architectural interpretation of the evolution of the local traditional buildings.
2. Spaces and spatial relationships as to the needs, activities, functional requirements, Islamic way of life, cultural and economic necessities, local natural constraints and possibilities.
3. Reading the technological messages and know-how and considering possible ways of translating these to present situations.

E- CONCLUSION

In contrast to the western societies the visual exposure of the Saudi students to the built environment is very much confused and lack critical perception. The causes of this are understandable. Traditional crafts have been superseded and removed from the life of the population. Thus no one is aware of these in their family circles. People in the construction industry are expatriate labour force, be they Egyptians, Yemenis, or other nationalities. The new environment is decidedly high technology based on imported goods as well as techniques. The affluence generated changed the values of the middle class, which is usually the back bone of the building activity. The local involvement in the construction activity is only at the managerial/entrepreneurial level

dealing with the financial matters. Getting on the site and becoming technically involved with bricks and mortar has not been a popular activity. A limited amount of clarification of the actual building process is possible in a class situation in order to bring some sense of perspective into the vision of the students. However this is not sufficient enough and would hamper the productive progress of the course work. Thus there is a need to force the students to get familiar with the actual buildings. The importance of this course can not therefore be over stated.

NOTES ON CHAPTER EIGHT

- 1 The basis of the following courses is the unpublished document submitted to Umm al Qura University. See: School of Al-^ḥImārah, Umm Al-Qura University, Makkah Al-Mokarramah, Structure and Programme. Final Report - Ramadhan 1403 - Jeddah.
- 2 Programme details were developed at a meeting on 23.4.1984 attended by the faculty of the Al-^ḥImārah Programme and the Coordinating Consultant. Those present at the meeting were: H. M. Ateshin, M. Faramawy, E, Serim, M. Erdim, I. Numan.
- 3 Original outline was composed in the main by Numan Cebeci, a member of the Consultancy team. See Final Report mentioned above, pp. 140-147.

Detailed development of the first two units of the series were undertaken by Muharrem Serim and Ibrahim Numan, faculty members of the Al-^ḥImarah Programme. Their work was used as a source for part of this outline.
- 5 Original outline was prepared in major part by Ahmed Eyuçe, a member of the Consultancy team. See Final Report mentioned above, pp. 111-117.

CHAPTER NINE:

COMPONENTS OF A WESTERN MODEL RESPONDING TO CONCEPTUAL INFERENCES OF AL-‘IMARAH PROGRAMME.

"...The blind belief in technology is unlawful, because it places man in the role of a seemingly almighty creator, and therefore contradicts the basic tenet of La Ilaha ill-Allah [There is no god but Allah].

Islam stresses man's role as Allah's responsible vice-gerent (Khali-fah) on earth. This concept is opposed to the western ideal of man as the unrestricted dominator of earth and nature - an attitude which should be branded as sheer human arrogance from the point of view of Islam.

Careful selection and adoption of technical innovation is needed in order to absorb and integrate them into a meaningful cultural system so that technological development would not overshadow man's prime duty. To enhance the divine creation, to ensure its natural balance and to protect its wealth and beauty..."

Stefano Bianca, in 'Traditional Muslim Cities and Western Planning Ideology', paper given at "The Arab City" Seminar, at Madinah, February - 1981.

Bearing in mind that there are four schools of architecture established in the Kingdom on the western models of architectural education already graduating architects, and expected to continue retaining their original structures, it was natural to see if conceptual inferences of the programme of al-‘Imārah could be reflected in their programmes too. In this instance King Abdul-aziz University's School of Environmental Design was used as the study. School's programme had already run for a generation and was being reviewed to improve its relevance and effectiveness in view of its aims and objectives. Original aims and objectives of the School consisting of a three year Core Programme common to three departments and three year professional programmes in three

specializations, were given in Chapter Two. Detail course structure of the original architectural programme is also included as Appendix 3 A.

As a result of extensive discussions amongst the faculty, a revised course structure was developed in 1984 as a draft for consideration of the responsible councils of the university for adoption. Though this did not materialize there were important elements in the proposals that would justify their consideration in similar programmes based on traditional western institutions. Some of these would be taken up in this chapter for further study and development.

Special nature of the School of Environmental Design demanded, in addition to the common Core Programme for the Architecture, Urban and Regional Planning, and Landscape Architecture Departments, a series of interdisciplinary courses to be taken by all the three departmental students during the professional programmes. This would have formed the backbone of the architectural programme too. Structurally the divide between the Core Programme and the Professional Programmes was very sharp in the original programme, each requiring three years to complete. In the new proposal this divide was "softened" and entry into the departmental programmes advanced forward to the middle of the third year. Thus last Core programme courses would be taken at the same time with the early professional courses. This added one more studio to the departments and allowed an easier change between departments if students choice would not prove the right one. The schematic structure of the final draft is given as figure 14.

SUGGESTED PLAN OF STUDY

PREPARATORY YEAR			FIRST YEAR (CORE)		
Fall	Spring	Summer	Fall	Spring	Summer
10 SED 100 4 DESIGN I (CORE)	10 SED 110 4 DESIGN II (CORE)		10 SED 200 4 DESIGN III (CORE)	10 SED 210 4 DESIGN IV (CORE)	
16 ELS 100 6 ENGLISH LANGUAGE SKILLS I	16 ELS 101 3 (ESE 101) ENGLISH LANGUAGE SKILLS II		4 SED 201 3 EVOLUTION OF BUILT ENVIRONMENT I	4 SED 211 3 EVOLUTION OF BUILT ENVIRONMENT II	
			3 E 101 (SED) 2 INTRODUCTION TO COMPUTER	4 SED 112 3 ENVIRONMENT I	
			5 SED 203 2 FREE HAND DRAWING	2 SED 213 2 INTRODUCTION TO ENV. DESIGN	
			2 ISLS 101 2 ISLAMIC STUD. I	2 ISLS 201 2 ISLAMIC STUD. II	
5 MATH 001 MATH	5 SED 115 4 SED MATHEMATICS		5 SED 205 4 SED PHYSICS	3 ARAB 101 3 ARABIC LITERATURE	
31 (20)10	31 (20)11		29 17	25 17	
SECOND YEAR (ARCHITECTURE)			THIRD YEAR (ARCHITECTURE)		
Fall	Spring	Summer	Fall	Spring	Summer
15 SED 300 5 DESIGN V (CORE)	15 ARC 310 5 DESIGN STUDIO I		15 ARC 400 5 DESIGN STUDIO II	15 ARC 410 5 DESIGN STUDIO III	
4 SED 301 3 EVOLUTION OF THE BUILT ENVIRONMENT III	4 SED 311 3 EVOLUTION OF THE BUILT ENVIRONMENT IV		4 ARC 401 3 ISLAMIC ARCH. I (HUMAN CONCERN)	4 ARC 411 3 ISLAMIC ARCH. II. (DESIGN CRITERIA)	
4 SED 302 3 ENVIRONMENT II	4 SED 312 3 ENVIRONMENT III		4 ARC 402 3 ARCH. DESIGN METHODOLOGY	4 ARC 413 3 ADVANCED BUILDING SYSTEMS	
4 ARC 301 3 STRUCTURES IN ARCHITECTURE I	4 ARC 311 3 STRUCTURES IN ARCHITECTURE II		4 ARC 404 3 SITE PLANNING	4 ARC 412 3 ENERGY IN DESIGN	
4 ARC 302 3 BUILDING MATERIALS	4 ARC 312 3 BUILDING CONSTRUCTION I		4 ARC 403 3 BUILDING CONSTRUCTION II	4 ARC 414 3 ENVIRONMENTAL CONTROL SYSTEMS	
8 11*6	23 6*11		31 17	31 17	
FOURTH YEAR (ARCHITECTURE)			FIFTH YEAR (ARCHITECTURE)		
Fall	Spring	Summer	Fall	Spring	Summer
15 ARC 500 5 DESIGN STUDIO IV (Modular)	15 ARC 510 5 DESIGN STUDIO V (Modular)		15 ARC 600 5 (Interdisciplinary) DESIGN STUDIO VI	18 ARC 610 2 (Graduating Project II) DESIGN STUDIO VII	
4 ARC 501 3 COMPARATIVE ARCH. THOUGHT I	4 ARC 511 3 COMPARATIVE ARCH. THOUGHT II		4 ARC 601 3 GRADUATING PROJECT I (Research)	2 ISLS 401 2 ISL STUDIES IV	
4 ARC 502 2 COMPUTERS IN ARCH.	2 ISLS 301 2 ISL. STUD. III		4 ARC 602 3 PROF. PRACTICE & MANAGEMENT		
4 ARC 503 3 HOUSING I	4 ARC 512 3 URBAN DESIGN		4 ELECTIVE 3	3 ELECTIVE 2	
4 ARC 504 3 WORKING DRAWINGS	4 ELECTIVE 3		4 ELECTIVE 3	3 ELECTIVE 2	
31 16	29 2*14		31 17	26 2*12	

- Interlink between Core and departmental programmes.
- Courses taken by all three departments together

Figure 14. PROPOSED COURSES OF STUDY (1985) AT SCHOOL OF ENVIRONMENTAL DESIGN, DEPARTMENT OF ARCHITECTURE, KAU-JEDDAH

For the purpose of this study a number of sequential courses that had significant roles in the totality of the programme have been selected for consideration. They were to be used as the medium through which concerns developed in the Al-°Imārah programme would be infused into the totality of the architectural programme as well as the foundation core.

The programme of the School of Environmental design had its own validated philosophy as developed by the original consultants. [1] Though certain aspects of the programme did receive justified criticism, there was no disagreement with its basic principle, that of training different designers together, under one roof and in some sort of inter-disciplinary structure, to prepare them for their later life when they will be co-operating as a practical reality of the professional life. It was much more sensible from the points emphasized earlier when developing the Al-°Imārah model than the completely independent departments.

There was a genuine desire to see how the existing, more traditional structures could also be infused with the ideas/ideals of the al °Imarah programme. Thus the experiment was entered into with enthusiasm. The courses selected for this purpose were:

- a- The University required courses on Islamic Culture.
- b- The history related courses of the Core Programme taken by all three specializations.
- c- The History of Islamic Architecture and Psychology and Sociology in Design courses of the professional programme in architecture.
- d- Housing courses taken together by all three depart-

ments as an inter-disciplinary course.

- e- The professional studio series in the Department of Architecture.

Not all these series will be dealt with here, but they are given as an indication of those areas thought to be critical and fertile for further development. The strategy selected was to effect a number of changes in the Islamic Culture series as the foundation work for the whole programme. Thus the doctrinal framework would be provided to the whole School though not in an integral manner as proposed in the Al-‘Imārah model by making it as the postulate.

The History related courses of the Core were thought also to be critical in providing the background as well as the basis of a line of thought as regards the shaping of the built environment. It had much more affinity with the Al ‘Imārah model as it was a common view shared by those involved in both studies. All the courses coming under this concern area (eight of them), would be amalgamated and streamlined so as to have a more effective composition in line with the inter-disciplinary nature of the programmes. They would also be given a value oriented approach to the shaping of the built-environment from the ideological point of view of Islam. There would now be only four consecutive courses to be known as "The Evolution of the Built Environment". Being part of the Core Programme they would serve to infuse the same concerns into the other two professional programmes as well.

Housing and Urban Design was one of the three inter-disciplinary

courses taken by all three specializations together. Its format as developed by the Harvard team referred to earlier, dealt with the western experiences extensively looking at it from the mass of data available in the West. The effects of Industrial Revolution, the housing policies generated to alleviate the ills of the post industrial revolution societies, as well as the controversial "third world" policies developed by west for Latin America made up the course. It clearly called for a major restructuring, if not complete re-writing.

Within the Departmental Programme, the single course, the "History of Islamic Architecture" would be amalgamated with the "Psychology and Sociology in Design" Course under a new title of the "Phenomenology of Islamic Architecture". The two sequential courses were planned to be the major theory course that would follow the "Evolution of the Built Environment" series and provide the kind of methodological, ideological, theoretical substance that would shape the attitudes of the students towards contemporary design.

Finally, the Studios would be regenerated as a sequential, structured design studios that should, at least by its structure, pressure very divergent elements in the teaching staff towards a co-ordinated effort. It should also provide to the students, who are mostly suffering from the wrong kinds of exposure to quality-less sub-standard environments a rational basis to guide their development. The nature of the studios would not resemble at all to the Al-Imārah Studio/workshop concept. There would not be any intention to do so either as this was

looked upon as another experiment on its own. Thus in the development of the studio programmes references to the prescriptive dimensions of the ideology of Islam would be minimal. It was expected that the first three group of courses described above would provide the channels through which Studio works would be nurtured with the ideology and the thought system of Islam.

The courses chosen to be further developed and included in this study should be evaluated from this strategical point of view.

It should be added here that the discussions on curriculum development has not yet reached a final conclusion and unfortunately discussions are adversely affected by non-academic considerations. Six years of study that demands a higher standard of English proficiency than the five year engineering programmes was a point of discontent. The decline in construction works in the Kingdom have also dampened earlier enthusiasm amongst the new secondary school graduates. Thus applications to join the schools of environmental design has dropped drastically in all the Universities. This has been more visible in the case of King Abdulaziz, the six year course being given as one of the reasons. King Faisal University's proposal to decrease its own credit hour requirements have also affected the thinking of local administrators. Thus an unhealthy attitude has developed intending to decrease the total time requirement from the undergraduate programme, to make the School more competitive. Similar views have been coming from King Saud University who also have drafted a proposal for implementation from 1987 Spring semester. Thus a year more has to pass at least for dust to settle and a second generation of architectural programmes implemented.

Course abstracts for the series of four courses as existing and taken by all the students of the University are given in Appendix Four and were commented upon earlier in Chapter four.

Ideally these four courses could be re-formulated to address themselves completely to the concerns of the built environment from a "theological" point of view. Being tied to the national educational policies it was realized that the ideal would be considered as deviation from the standard in a sensitive area and thus not taken up. The second best solution was to prevail upon the Volleghe of Arts and Humanities which provided the courses through its Department of Islamic Studies, to allow some flexibility in the course contents so that School of Environmental Design's objectives could be met. This approach has been finally adopted and the following proposal prepared.

The suggestions identify the concerns of the School and those areas in which it feels Islam, as the system of thought defining a particular way of life, can become the principal element of design development. Their incorporation into a course structure was not attempted as official commitment was required from the Department concerned in another separate College. This would have been the ideal solution. It was hoped that the interested course tutors could incorporate these into their teaching. However, theoretically speaking, points enumerated below can be composed into an independent course content and developed in such a way that it will be much more suitable and useful to a future shaper

of a built environment than the present ones. Seven Topics were formulated as follows: [2]

A-ISLAMIC CONCEPT OF THE NATURAL ENVIRONMENT

The natural environment under the Khilafat (Trusteeship) of Man, the object of this Khilafat being ‘Ibādah (worship) as well as ‘Imārah (Reconstruction of Earth).

1- Man's responsibility towards the following elements of the natural environment placed in his trust should be considered.

- a- Natural resources such as air, water, soil, plants, animals, minerals.
- b- Natural cycles such as hydrological, oxygen, cycle of nutrients.
- c- Complex inter-relationships between living beings and natural environment.
- d- Human body.

2- Consideration of the above should be in the light of the verse of the Qur'an "...It is He Who created all things, and ordered them in due proportions" (25:2) and other verses of similar relevance.

2- Consideration of the above within the responsibility of Man in its conservation, in his investment in it, and in his satisfying his needs from it in a manner that also satisfies Allah.

3- Consideration of the above in their relationship to ‘Ibādah (worship), contemplation, deriving benefit without waste, ḥalāl (lawful) enjoyment, experiencing beauty.

B- RULES OF THE SHARIAH CONCERNING THE NATURAL ENVIRONMENT

Considerations on Shariah deals basically with the harmful aspects. This conforms also with the basic principle that avoidance of the prohibitions precedes the acts enjoined or allowed by Islam in hierarchical importance.

1- How to interact with the natural environment and avoid actions harmful to its elements as listed below.

a- Air; plants; animals; water (surface, underground, as well as domestically used).

b- Agriculture, desert lands (Ihya al mawat [land reclamation]); pastures (Al Hima system); human body.

2- Conservation and protection of the above from harmful effects that may arise from chemical products, industrial waste, noise, radioactivity, drugs, intoxicants, etc..

C- ISLAMIC CONCEPT OF THE URBAN ENVIRONMENT

Consideration of the Urban Environment to be taken up under the following categories.

1- Urban Environment as composing a major part of man's Khilafat (trusteeship) and his responsibility over 'Imārah of earth.

2- Importance of Urban Environment for communal worship and establishing/belonging to, a community of believers.

3- Injunctions pertaining to all aspects of sheltering man within the natural environment, the city, the quarter, the street, the house, clothing, etc..

D- RULES OF SHARIAH RELATED TO THE URBAN ENVIRONMENT

Concerns of privacy and its relevance to social order; relationship of houses and means of public communication arteries; principles of social responsibility/obligations/co-operation and rules issuing from these.

1- Considerations of the above in distribution of the residential units within an urban configuration and their relationship to public places and facilities.

2- Distribution of residences in terms of income levels, social classes etc..

3- Consideration of the above in relation to the principle that asks for a median behaviour between extravagance and miserly, and the reflection of these principles in the totality of the urban setting.

4- Consideration of the rules related to leisure and recreation.

5- Consideration of the rules pertaining to different categories of social scale, according priority to the weak and the underprivileged (disabled, aged, poor, children, women, etc..)

E- RULES OF THE SHARIAH IN REFERENCE TO MASJIDS

Benefits that would accrue from building masjids and the role of masjids for the Ummah (Global Community of Muslims).

1- Consideration of the above in relation to the masjid, its vicinity with buildings as well as activities contained in and in between buildings in a horizontal as well as vertical dimension.

2- Different scales of the masjids, from musalla, zāwiyah to the Musalla al Eid (Place of worship for Eid occasions).

3- Shariah position towards decoration and ornamentation in masjids and limits of aesthetic considerations.

F- RULES OF THE SHARIAH RELATED TO HOLY PLACES AND AWKĀF (ISLAMIC FOUNDATIONS)

1- The concept of forming awkāf and the purpose that it serves within the social structure in Islam should be addressed to in detail. Following are the major elements of the topic.

- a- The two sacred precincts of Makkah and Madinah.
- b- Other areas related to the ritual of Hajj.
- c- Precincts associated with public worship.
- d- Rules related to establishment of wakf.

G- ISLAMIC CONCEPT OF LITERATURE AND FINE ARTS

1- The concept of aesthetics, and beauty in the consideration of Islam under following headings.

- a- The feeling of beauty and development of aesthetic appreciation in Islam.
- b- Aesthetic values expressed in the Qur'an.
- c- Artistic expression, its scope and limitations in Islam.

Bearing in mind that the four compulsory courses will come at the earlier parts of the students' study programme, it is hoped that a sensitivity is developed amongst the student body towards the practical application of these in professional programmes.

ii- EVOLUTION OF THE BUILT ENVIRONMENT SERIES

There were nine disjointed courses, eight of them in the Core Programme as four pairs and one in the Professional Programmes, addressing themselves to history of various portions of the built-environment. This was the uncritical attitude to inter-disciplinary education. The three professional programmes were considered as having their own independent histories, and the philosophy of inter-disciplinary education necessitated cramming all the three separate histories independently in the minds of future participants in the shaping of the built environment. These were: MIDDLE EASTERN CITIES; CITY AND CITY PLANNING; HISTORY OF ART AND ARCHITECTURE; WORLD HISTORY; and LANDSCAPE OF MAN. A new sequence of four courses, to be named "Evolution of The Built Environment", was developed as a replacement to the nine. In the words of the Task Group that was established for the purpose of formulating the new series,

"... man's response to environmental factors through definable elements of the built environment would be studied on a cross cultural/regional context, focusing on processes rather than products and staying clear from the anticipation of professional problems..."[3]

Following is the outline course structure for the courses "EVOLUTION OF THE BUILT ENVIRONMENT I, II, III and IV" as proposed. [4]

A- AIMS OF THE COURSES

The sequence will deal with the study of the formation and evolution of the built environment, focusing on the treatment, and composition of the elements of the built environment. In its

treatment the built environment will be considered as the synthesis of cross-cultural and regional contributions with emphasis on the Islamic principles and the Muslim world. The neglected local and regional constituents of the built environment will be given its proper attention. During the study consideration of products in the light of processes will be carried out, without going into descriptive details.

Thus in developing successive courses the appreciation of the totality and the dynamics of the built environment, together with the individual roles as well as the inevitable cooperation of the environmental design disciplines in our contemporary world will be stressed. The sequence will also form a comprehensive foundation for the history and theory based courses of the individual departments in succeeding departmental years, that will approach the study of the built environment from particular disciplinary viewpoints.

B- OBJECTIVES OF THE SEQUENCE

The above aims will be achieved in four consecutive semesters by:

1. Exposing the students to the chronological and cross-cultural/ regional history of man's interaction with his environment for the achievement of the physical setting most appropriate for his needs, focusing on major cultures/regions and significant periods/events in the history of mankind.
2. Providing the student with the knowledge of the elements of and the factors behind the built environment; developing in them the understanding of the roles of these factors in the shaping/

formation of the built environment with its elements and their composition, through:

- a- exposition to different examples from the past and present, vernacular as well as professional, and,
- b- analyses in the students' existing physical environment, focusing upon man's response to environmental factors (natural, cultural, economical, technological etc.) regardless of a chronological perspective.

3. Providing the students an insight into the development process of the built environment in the contemporary world (and in Saudi Arabia) exposing them into the roles and responsibilities of the environmental design disciplines as well as their interdependence and necessary co-operation and developing in them the comprehension that a quality environment can only be achieved through serious consideration of the environmental factors by the people (professionals and users) involved in the process.

C STRUCTURE AND METHODOLOGY OF THE SEQUENCE

The above objectives will be met by studying in the first and second semesters of the sequence the evolution of the built environment, and considering the dynamics of the environmental factors such as cultural change, technological progress, economic development, etc.

First semester will cover the whole history in a broad perspective whereas the second will concentrate on Muslim cultures with particular emphasis on the Middle East. During this second semester two of the issues that have been succinctly covered in

the previous semester (i.e. Islamic Religion and evolution of the Middle Eastern built environment during the Muslim period) will have the opportunity to be studied in detail.

The final (fourth) semester of the sequence will be devoted to the achievement of the third objective above which, in combination with the previous achievements will form the foundation for the specialized departmental courses that will deal with historical or theoretical issues from particular disciplinary viewpoints in later years of the curriculum.

In the achievement of all the above, descriptive studies of products (i.e. buildings, open spaces, landscapes, towns, etc.) will be avoided with emphasis being maintained on the process of man's struggle for the achievement of his appropriate physical environment. In all of the issues handled, common interests and benefits of all of the three departments will be kept in mind and in sight, staying clear from anticipation of particular disciplinary problems. In this regard isolated, separated or shared involvement in different scales of the built environment or in works of different professions will also be avoided to provide a more comprehensive and inter-related apprehension of the built environment and its formation/evolution process.

D- THE EVOLUTION OF THE BUILT ENVIRONMENT I
(What Happened in the Past)

1. Objectives for the course:

In general terms the following points are proposed as possible objectives for the first unit in the sequence.

- a- To know the major cultures/epochs in the history of man's development.
- b- To understand the varying response of man to environmental factors in different cultures/ regions and at different times.
- c- To understand the role of important events (inventions, developments, discoveries, etc.) behind major changes that affected different environmental factors during the progression of different cultures.
- d- To understand the reflections of variations/changes in environmental factors upon the built environment.
- e- To understand the influence of cross-cultural interrelations on the built environment.

2. Pertinent issues:

In pursuing the above objectives a number of pertinent issues comes to mind. A possible list of issues is suggested below.

- a- Creation of the world (and man) as defined in the Qur'an.
- b- Historical references from Qur'an (pre-Qur'anic) in relation to the history of civilization.
- c- Thresholds in the history of cultures (inventions, developments discoveries etc.).
- d- The nature of environmental factors and cross-cultural influences and their effects on the elements of the built environment and their compositions (professional and vernacular), in the following epochs.

i- Pre-Qur'anic Cultures.

Ancient: Middle/Near East (Nile, Mesopotamia, Indus, Anatolia); Far East (China); Far West(America);

Classic: Greek; Roman;

ii- Post-Qur'anic Cultures:

Early Islam: Middle East; North Africa; Spain

Middle Ages: Europe; Far East; Far West

Late Islam : Ottoman; Iran

Renaissance/Baroque: Europe; Far East; Islam

19th. Century: Worldwide

D- THE EVOLUTION OF THE BUILT ENVIRONMENT II
(Islam and the Built Environment)

1. Objectives for the course:

Similar to the first course a number of objectives are proposed below as applicable to the second unit.

a- To know the place of the built environment in Muslim Thought and to know the Islamic principles related to the formation and utilization of the built environment.

b- To understand the responsibility of the Muslim Environmental Designer towards society, nature and the Creator.

c- To understand the role of Islam (as a way of life) on the evolution of the built environment in history.

d- To observe the effects of deviations from or negligence of Islamic principles upon changes in the Muslim built environment in later periods.

e- To identify the non-Islamic influences upon the factors

behind the past and contemporary Muslim built environment and discern the reasons behind the contemporary "unification" of the built environment of different cultures.

2. Pertinent Issues:

In the light of the above proposed objectives following issues are suggested as pertinent for consideration and discussion.

a- Reason of existence and life in the Qur'an; Islam's consideration of life and man's responsibilities.

b- The place of the built environment in this consideration (as it affects the social life contained within the built environment.)

c- Muslim thinkers/scholars who wrote on matters related to the built environment. (Ibn Khaldun etc.)

d- The chronological history of Muslim built environment: Middle East; Anatolia; Egypt; Near East; Spain; North and Central Asia.

d- The role of communications in cultural change and thus in the built environment.

e- 20th. century built environment (worldwide attitudes, concepts, examples), cultural unification; change of values; change of the built environment.

E- THE EVOLUTION OF THE BUILT ENVIRONMENT III (Factors Behind the Built Environment)

1. Objectives for the Course:

The objectives proposed for this unit are same as those for the Al-Imārah programme. In that programme it was dealt with over a

span of four semesters and included all aspects of the built environment. Here it will be covered in one course only.

- a- To know the elements of the built environment and to apply this knowledge in the identification of the elements of any given piece of human settlement.
- b- To know the factors behind the built environment and to understand their role in the formation of its elements and compositions.
- c- To analyse a particular piece of the built environment in order to identify the roles of the factors behind the formation of its elements and their composition, as well as the nature of man's response.
- d- To differentiate between positive and negative responses of man to environmental factors in his efforts in shaping the built environment.

2. Pertinent Issues:

Same issues as those in the Al-^cImārah Programme are proposed to be addressed here:

- a- Elements of the built environment:
 - i) Solids and voids
 - ii) Natural and manmade
- b- Factors behind the built environment:
 - i) Natural - Climate; Topography; Location; Land.
 - ii) Social - Religion; Tradition; Norms; Way of Life; Social Organization; Politics; Economics.
 - iii) Technological - Communication; Transportation; Construction; Environmental Control; Landscaping.

F- THE EVOLUTION OF THE BUILT ENVIRONMENT IV
(Contemporary Processes)

1. Objectives for the course:

A more familiar list of objectives are proposed for this unit.

a- To know the political, governmental, official, administrative mechanism behind built environmental development in our time, as well as the nature and roles of the other environmental factors (increasing share of technology and economy, decreasing share of the culture).

b- To know the roles and responsibilities of professionals (environmental designers and others) in this process.

c- To understand the inherent interdependence and thus the necessary co-operation of the disciplines commissioned and participants involved in the evolution of the built environment.

d- To comprehend that a quality environment can only be achieved through careful analysis and serious consideration as well as optimum response to the factors behind the built environment by those (user groups, professionals, officials, etc.) involved in the evolution process.

2. Pertinent Issues:

1- Related issues that can be raised in pursuance of these objectives are suggested below.

a- Universal evolution process of contemporary built environment.

b- Specialization of professions (environmental and

others) and their necessary co-operation.

c- Diversification of the roles of the participants in the shaping of the built environment (Client, Designer, Implementer, User)

d- Examples of contemporary developments (public and vernacular; planned and unplanned) of the built environment (urban and rural settlements, schemes, projects).

e- Successful examples and reasons for their success, (Non-Saudi, Saudi); Unsuccessful ones (planned and unplanned); the reasons for their failure: Government response (demolition; adaptation); People's response (adaptation; abandoning); Vernacular developments.

f- Considerations for the achievement of quality built (Private sector); Designers role (Inter-disciplinary co-operation; user needs' considerations).

The proposal as defined above generated a lot of enthusiasm as well as apprehension amongst the concerned faculty. The comment from the School's consultant in Harward, Dean Kilbridge, who was asked to opine on the draft proposals wrote back asking where should one find another Giedion to write the textbooks for the course. The difficulties in putting muscles on the framework assembled as per above draft is not underestimated. It is hoped that once the proposal is agreed to a task group will be formed to further develop each course.

In Schools of Architecture, Design Studios form the major component of architectural training receive the lion's share of attention as well as criticism.^[4] Where a strong tradition has been established or tenured faculty exists to provide the continuity desired in any programme that extends over a number of years, Studios may be run based on a common consensus without any major disruption. This was not the case at the School of Environmental Design's Department of Architecture. The only available guide as contained in the course abstract of the courses was very superficial indeed. (See Appendix Four D 1). As a result of this situation the faculty assigned to the studios implemented over the years, programmes and projects which agreed with their own personal views and experiences without any co-ordination whatsoever. The re-evaluation initiated regarding the whole programme gave a chance to deal with the studio courses in its totality. The final proposal was structured in the form of a Studio Manual which would identify aims and objectives of the studios within the curriculum of the Department of Architecture as well as define a structure within which these objectives could be met.

The need for such a manual became a serious matter for a number of reasons. In the first place a School of Environmental Design would structure its studios in a distinctly different manner to those of the traditional schools of architecture. This distinction should be clearly defined and its maintenance assured. Furthermore, for some time to come the Department will depend on expatriate faculty for the implementation of its programmes.

Most, if not all, of this faculty would be coming from traditional independent-department oriented institutions. Thus they would not be able to appreciate the nature of the school's programme immediately without a written document. Such a document will facilitate familiarization of incoming faculty with the programmes of the School as well as the Department.

Similar to any other theoretical course Design Studios also require a distinct structuring of content, methodology, and sequential relevance to previous as well as succeeding courses in the same series. However, in structuring the proposal in the form of a manual, special care was taken so as not to go beyond furnishing the faculty with an operational and procedural frame of reference, aimed at securing the consistency, coherence and sequential relevance of these courses. In doing so it should not stifle the initiative of the faculty in teaching, nor become a straight jacket to a course that addresses very much the personality and creative nature of the individual prospective shaper of the built environment.

The studio series will be given here a generous space of attention as it forms the backbone of the whole departmental programme. Within it one can also identify the nature of the programme's totality. Of course "The Manual" that has been mentioned above would have a different format to be suitable for its particular purpose. It will, because of its nature, contain much more including a general statement as regards the aims and objectives of not only the Design studios, but also the Department, as well as the School was deemed essential and provided as a preamble in

the manual itself. Here only the major concerns will be reflected as text. [5]

A- GENERAL AIMS OF THE SCHOOL OF ENVIRONMENTAL DESIGN.

School of Environmental Design aims at producing a young professional who is competent to generate fully developed rational solutions to the design problems he will encounter in professional life as one member of the large body of Environmental Design professionals. In addition he will be expected to manage the institutional and organizational procedures necessary to the realization of his designs. He should function as a generalist designer who understands, values and seeks the contribution of other design professionals. Above all he is hoped to understand, value and implement with responsibility his role as the shaper of the man-made environment, and aspire to a responsive, productive relationship with his client, his society and his culture. In all these, he is expected to take up as his criterion and be guided by his commitment to the system of belief, that of Islam.

B- BASIC CONSIDERATIONS

Inorder to maintain clarity and uniform comprehension of issues, a number of terms and definitions need to be re-stated as they are utilised in the proposal.

1- The DESIGN PROCESS

For the purpose of the Architectural Design Studios, it is taken that the DESIGN PROCESS deals with the analysis of requirements of the users and the built environment, and related factors of

design dealing with issues be they constraints and limitations or potentials of the particular situation. In doing so one is involved with the development of sub-systems and with their integration into a total system of space organization, as a suitable environment for the needs of the user.

2- The SKILL/KNOWLEDGE BASE

Before dealing with the stages of the Design Process itself, a particular term that will be constantly used when referring to the Studios will need to be defined.

This is the SKILL/KNOWLEDGE BASE. Knowledge and skill are normally considered as different: knowledge as a condition of knowing something and skill as the ability to use knowledge to some purpose. Knowing something does not necessarily mean that one can act on that knowledge; it is also possible to apply knowledge without being able to explain what the knowledge is. However, a hard distinction between knowledge and skill is not useful for the way studio teaching takes place. Their being bound together in the action of the studio is an important quality of architectural education. As a consequence the joined term of SKILL/KNOWLEDGE BASE will be used in reference to the totality of what is learned in the studio. [7]

3- STAGES OF THE DESIGN PROCESS

The design process in the architectural design studios, is considered to consist of different stages as indicated below:

a- The PROGRAMMING Stage

It is the determination of a plan of action for defining and achieving a particular desired end result, within the framework of various limits. It comprises of introductory background information, and statements regarding GOALS, FACTS, NEEDS, PRECEPTS, for a particular building project.

b- GOALS include the purpose of the project, client and user objectives, a description of the project and of the desired final result.

c- FACTS include quantitative and qualitative data/information about the project that are readily available, or that can easily be derived. Quantitative data may encompass site, climate, codes, zoning, utilities, project scheduling, space requirements and building quality and scope relative to a given budget. Qualitative data may be concerned with activity analysis, sensory considerations and desired environmental qualities.

d- NEEDS are specific requirements of facilities for the purpose of fulfilling client objectives and which are essential to the proper functioning of the facility as a whole.

e- PRECEPTS, or principles, are individual planning commitments or mandates dealing with important quantitative and qualitative factual issues. They are the direction-giving part of the programme and suggest to the designer what the architectural implications of the goals and facts may be. They contain value judgements to assist the designer in studying alternatives and in reaching decisions about critical aspects of the project.

4- THE ANALYSIS STAGE

This involves a close examination of the problem in its entire complexity as well as of its individual elements and of their relationships in both concrete and abstract terms.

5- THE SYNTHESIS STAGE

This is an operational stage where the various relationships identified in the previous stage, concrete as well as abstract, are combined into a coherent whole, within the context of the particular problem in question.

6- THE CONCEPTUAL DESIGN STAGE

This may also be called the stage where outputs of all previous stages are interpreted into the language of design representation under the catalysis of basic design precepts, while ideas are introduced towards the development of the final design.

7- THE DESIGN STAGE

This is the stage where the design proper is developed through preliminary, final, and detail design phases to the point where it fully represents all the decisions regarding the artifact to be eventually submitted.

8- EVALUATION

Evaluation is not considered as a stage but an act whereby judgement is passed, on the basis of internal evidence as well as external criteria, regarding the suitability of different stages and final solution to the problem. It is expected that it will be carried out whenever required during or at the end of each and every stages.

C- ISSUES IN TEACHING

With the above understanding of the basic considerations within the design process a number of issues would need to be addressed to in any design education:

1- A large number of building types, changing conditions of need and use, and the ever increasing choice of technological resources is a reality of the built environment in to-day's world. Starting from this reality it is more appropriate to approach the design as a specific way of problem solving, looking into how one can deal with a large number of variables and how one can integrate sub-systems of spaces into a total system of space. Building Types of any kind will then be just a medium for the teaching of this approach which in fact deals with the organization of spaces at different hierarchical levels.

2- Various methods are utilized for the transformation of needs and resources into a design scheme. In coping with large number of variables and integration of sub-systems into the final project one specific method can not be considered as decisive. Instead of insisting on specific methods, a variety of methods should be brought into the concern area to help students select and develop those that are much more personally productive to them.

3- Design process requires specific theoretical input essential for the developing an appropriate solution to the design problem. This input should be co-ordinated with project work and tailored to the needs of the problem to provide material when required for the solution of a design problem.

4- The architectural implication of subject input (including Engineering, Landscaping, Planning, etc.) should be demonstrated in the project work. The student should furthermore be expected to refer to available literature. Site trips are essential to provide the student not only with visual images but also with 'life' experience of systems, sub-systems and their inter-relationship. In the studio there should be direct and close supervision in addition to a series of more formal presentations and critiques.

5- Communication skills of the student should be further developed as means to convey messages to users, clients, authorities etc. in a standard language. Skills should not, however, be seen as purpose on its own: the message is more important than the form of the message.

D- MINIMUM LEVEL OF SKILL/KNOWLEDGE BASE FOR STUDIOS

Students come into the Department of Architecture after having successfully completed the Core Programme and in doing so achieved the acquisition of those interrelated skills and knowledge deemed minimum for the Core graduates. This level will also constitute the minimum entry requirement into the Departmental Programme too.

E- STRUCTURE OF DESIGN STUDIOS

Architectural Design Studios are to be considered as a series of studios IN SEQUENCE, building successively the architectural skill/knowledge base of the students. They are places where architectural problems will be studied and their solutions

addressed to in increasing breadth and depth of treatment.

1. SEQUENTIAL RELATIONSHIPS

Though always addressing to the totality of the problem and its solution, each studio in the sequence will have specific goals set for itself in such a manner that studio teaching will fold one on top of another always adding to the acquired skills and knowledge of the previous ones and requiring their mastery and use by the end of a course.

a- The first five studios will address to specifically architectural problems, covering the totality of the field that architects are expected to deal with so that they can participate meaningfully as a professional member of a design team in an architectural practice.

b- The last two of these five will have a different format to the first three. They will be named as "Modular Studios" and explained further down.

c- The sixth studio will be an Interdisciplinary Studio run jointly and attended by the faculty and students of the other two departments of the School. Because of its specific inter-disciplinary nature, it will have a structure particular to itself and different to the previous five studios, although it will build upon and as such demand the presence of the totality of the skill/ knowledge base defined to be acquired by the end of the five preceding studios by architectural students.

d- The seventh studio will be the Graduating Studio which again will have a distinct structure different to the previous five, building upon what has been gained earlier

and also requiring its independent application on the part of the student to a specific problem, under surveillance of studio tutors.

F- DESIGN STUDIOS AR 310 - AR 510 (FIRST TO FIFTH)

A number of issues will be defined for consideration in all the studios at differing levels of depth and breadth. These issues will cover the totality of the design activity itself. Projects or problem areas will be developed by the Studio co-ordinators that can serve as the medium for the acquisition of competence in various areas. In the first three studios the number or length of the projects will be secondary to the need of providing the most conducive format through which to teach the desired skills to the students.

1. ISSUES TO BE ADDRESSED TO IN THE STUDIOS

Following issues are proposed to be specifically addressed in all the studios:

- a- ENVIRONMENT (SETTING): This issue deals with the SITE in its varying TOPOGRAPHY, CLIMATIC & SOIL conditions-, VEGETATION, its NATURAL and MAN-MADE features, URBAN or RURAL characteristics, and various degrees of BOUNDARY being defined as its limits, such as a room within the enclosing walls, or a house within the bounds of its immediate environs etc.
- b. PHYSICAL AND SPATIAL ORGANIZATION: This issue deals with a SPACE/SPACES as defined by physically present or implied

boundaries within which different NEEDS/ACTIVITIES will take place. ORGANIZATION of SPACES, their INTERRELATION and INTERACTION, their ADDITION or SUBTRACTION, their QUALITY, their OPEN or CLOSE nature are dealt with.

c. STRUCTURE: The SYSTEM that would PROVIDE the stability of the end product, its development and OPTIMUM utilization, CHOICE of the most suitable and appropriate system/systems will be addressed.

d. BUILDING TECHNOLOGY: Additions or modifications to the basic structural system necessary to satisfy all the detailed requirements, concerned specifically with the making, mixing, placing or assembly of materials.

e. ECONOMY: Economic considerations in reference to Building Technology as described above, as well as economic implications of the design, and the final utilization of the finished object.

f. SOCIAL/PSYCHOLOGICAL CONSIDERATIONS: Architectural/spatial ramifications of phenomena related to the social organization and context of human life, psychological constitution of human beings as potential users of the built environment, are addressed. More specifically, topics such as social behaviour, environment/behaviour interactions, customs, mores, environmental psychology, perception, et al. are dealt with from an Islamic point of view.

g. LEGISLATIVE (CONSIDERATIONS): Legally enforced constraints on property and its development, i.e., current as well as Islamic by-laws, codes, regulations and ordinances

affecting the shaping and utilization of the property, are addressed.

h. ENVIRONMENTAL CONTROL SYSTEMS: Precepts, requirements and techniques of implementing the various (mechanical) systems that ensure the physiological and/or psychological well-being of the prospective users of the built environment are addressed. More specifically, systems such as the water-supply, sewage disposal, illumination, acoustics, communication, thermal control, et. al. are dealt with.

i. PROCESS: Different stages of the design process as identified earlier, brought into the area of concern whenever appropriate.

j. PRESENTATION: Different techniques of graphic presentation with basic formats and standard scaled drawing sizes to be covered as appropriate.

2. MODULAR STUDIOS

It will be assumed that by the end of the third design studio students will have built up enough a skill/ knowledge basis by being exposed to basic architectural design problems and issues so as to allow the adoption of a more open structure for the last two studios. Thus the last two studios will be organized on the basis of having available on offer, for the choice of the students, different projects developed as modules that have a variety of fixed time and equivalent weighting attached to them (five weeks, ten weeks, or fifteen weeks in a sixteen week semester, credited with two, four, or six Credit Hours). In the space

of two semesters a variety of modules should be taken so as to total in credits to twelve Credit Hours.

Each module, depending on the time fixed for it, will address to different development stages of the design process and closely defined sets of criteria. It will thus allow faculty to offer projects which involve their interests, experience and research. Modular structure will also allow the introduction of specific issues of a specialized nature that can not be addressed to in the earlier studios because of the necessity to have a basic skill/knowledge basis available and the input of specialized information.

Modular structure will necessitate the provision of a number of parallel projects at the same time by different faculty members, some faculty offering more than one module, to be selected by students based on their free choice.

3. AIMS AND OBJECTIVES OF EACH DESIGN STUDIO

Having covered the modalities of the Design Studios different charts can now be formulated that will define the aims and objectives of each studio, indicating the parameters within which projects can be formulated and articulated. A set of these is suggested in the figures below as a preliminary proposal which can be polished further in application. These charts will apply to the first three structured design studios only.

FIGURE 15. AIMS AND OBJECTIVES OF AR 310 1ST. DESIGN STUDIO

ISSUES	EXTENT OF INVOLVEMENT
ENVIRONMENT (SITE)	NATURAL environmental design factors associated with the site are addressed. IMMEDIATE site boundary defined as the limit of consideration. Constraints in the natural environment are IDENTIFIED and CONTROLLED. For instance, if topographical problems will be present then climate will be made of unimportant concern by defining it to be temperate or mild, thus requiring no serious design response. If climate will have some "limited" consequences (like utilization of breeze; responding to radiation; etc.) than an easy topography will be selected.
PHYSICAL AND SPATIAL ORGANIZATION	Organization of single, open/close spaces, simple in their requirements. Repetition of simple spaces with identified SINGLE NEEDS and limited number of activities. Conflicting spatial requirements between two single spaces with conflicting characteristics.
STRUCTURE	Utilization of a GIVEN SIMPLE structural system and its integration into the spatial organization scheme within its rational limits.
BUILDING TECHNOLOGY	Specified and LIMITED NUMBER of basic materials with associated construction methods, followed by CHOICE of materials from a GIVEN number. Integration of different materials with different behaviours in to a whole.
ECONOMY	Exposure to the economic implications of space defining and enclosing elements as "concepts" and NOT as criteria to be responded to. Concerns for maximizing the material/effort in spatial organization and enclosure.
SOCIO/PSYCHO-LOGICAL ISSUES	NOT MADE A CONCERN. This is done by way of limiting users to a single sex.
LEGISLATION	NOT MADE AN AREA OF CONCERN.
ENVIRONMENTAL CONTROL SYSTEMS	Mechanical systems NOT TO BE made an area of concern. Natural means and uses to be dealt with. Use of PASSIVE environmental control systems.
PROCESS	An awareness of the vocabulary of architectural design process.
PRESENTATION	Mostly in three dimensional form. EMPHATICALLY in free hand.

FIGURE 16. AIMS AND OBJECTIVES OF AR 400 2ND. DESIGN STUDIO

ISSUES	EXTENT OF INVOLVEMENT
ENVIRONMENT (SITE)	Urban location with the street system and the opposite side of the street as boundaries. Climatic/topographical variables.
PHYSICAL AND SPATIAL ORGANISATION	Open/closed spaces. Interrelation of various spaces with conflicting circulation problems of different users.
STRUCTURE	Choice of an appropriate structural systems and its proper utilization.
BUILDING TECHNOLOGY	Selection and justification of materials and their appropriate assembly.
ECONOMY	Cost implications of design variables such as plan shape; building size; enclosure to floor area and efficiency ratios of circulation to activity spaces. Awareness of the relationship that exists between design of buildings and their eventual overall cost (initial cost + construction costs). Selection of economically feasible design solutions/materials/methods of assembly employed.
SOCIO/PSYCHO- LOGICAL ISSUES	Occasional mixing of different sexes in public spaces and consequences of such use in spatial terms. Later, accommodation of sexes under the same roof.
LEGISLATION	As it affects the site and the buildings that will be put on it.
ENVIRONMENTAL CONTROL SYSTEMS	Use of mechanical means to temper internal environments.
PROCESS	Evaluation/elaboration/modification of a given spatial programme. Spatial programme development.
PRESENTATION	Inclusion of design analysis in presentation. Hardline orthographic presentation with models. Written or graphic report dealing with the justification of the design solution for the final project of the course. A reflected ceiling and/or similarly appropriate representation of the structure.

FIGURE 17. AIMS AND OBJECTIVES OF AR 410 3RD. DESIGN STUDIO

ISSUES	EXTENT OF INVOLVEMENT
ENVIRONMENT	A relatively large site sufficient enough in size to contain several buildings/urban spaces within an at-least-partially-built-up urban area will be dealt with. All relevant environmental factors (item F.1.a) are to be considered.
PHYSICAL AND SPATIAL ORGANIZATION	Design of exterior spaces and exterior spatial patterns in integration with the existing surrounding spatial patterns as well as design of buildings will be covered.
STRUCTURE	Choice of appropriate structural systems and their proper utilization in the design of solids and voids.
BUILDING TECHNOLOGY	As for AR 400 with additional concern for the treatment of exterior spaces.
ECONOMY	Inter-connection between the initial cost (mainly the construction costs) and running/ maintenance costs of different design solutions; substitution principle. An awareness of the implications of architectural solutions in an urban context.
SOCIO/PSYCHOLOGICAL ISSUES	Social and psychological concerns at personal, group and community scales will be addressed (NOT necessarily through residential projects.)
LEGISLATIVE	Consideration of current laws, by-laws, regulations as they affect the site.
ENVIRONMENTAL CONTROL SYSTEMS	As for AR 400, with additional consideration of the requirements of the larger context like noise control, sanitary infrastructure, etc.
PROCESS	Teamwork to cover survey, analysis, synthesis and sketch design phases at urban design level. This will be followed by individual undertakings of the design of buildings and revision of the urban design project. Appraisal of conditions and circumstances; non-design decision making; programming; long-term planning; plan and/or project implementation phasing and justification of all decisions and proposed actions will be attempted.
PRESENTATION	Graphic presentation of all survey, analysis and design as well as a report covering collected relevant data, analysis, synthesis, decisions, program of action as well as building, phasing description, economic and financial concerns and justification of all decisions and proposals in relation to the teamwork. Urban design models also to be submitted. Individual projects as for AR 410.

The Inter-disciplinary Design Studio is a joint studio of the three Departments of S.E.D. It takes place as the sixth design studio in the sequence of seven departmental studios. All the three departments, participate in this studio with their students and staff as long as these are available.

1- AWARENESS REQUIRED FROM ENVIRONMENTAL DESIGNERS

No single environmental design profession, whether it is Urban Planning, Landscape Architecture or Architecture, can undertake to solve alone the colossal issue of producing a healthier physical, social and psychological environment fit for human life. In order to achieve this kind of desired environment, professionals of the environmental design disciplines must be able to work together harmoniously and in a concerted way; not in isolation from one another, not in ignorance of one another and definitely not in conflict with one another. If such a co-operative atmosphere among the environmental design disciplines is hoped for, then the professionals of tomorrow's world should be made aware of:

- a- The knowledge, skill and abilities generally possessed by the members of other environmental design disciplines;
- b- Their possible, desirable and indispensable contribution to the making of a quality environment, and,
- c- The merits, potentials and possible problems of inter-disciplinary teamwork towards the achievement of such an environment.

The inter-disciplinary studio is implemented in the light of above concerns and goals where students tackle environmental design tasks of broad scope in multi-disciplinary teams.

2- AIMS OF THE STUDIO

In order to achieve the aims that will be enumerated below the students reaching this level in all the departments must already be able to systematically produce and convincingly communicate disciplinary design solutions which appropriately and properly:

- a- Respond to the demands of land, topography and climate; utilize available technologies and facilities related to the problem and the situation;
- b- Address social, physical and psychological needs of the client and the society; and
- d- Consider economic and legislative potentials and constraints.

Starting with this basis the Inter-disciplinary Studio is aimed at:

- e- Culminating the inter-disciplinary education of the students with an exercise in which they participate as competent representatives of their respective professions;
- f- Departing from the conventional "multi-disciplinary" procedure in environmental design projects, which is usually "sequential", into the "inter-disciplinary" approach which proceeds" simultaneously."
- g- Developing a higher level of awareness of the professional roles of one's own discipline and the other discip-

lines in environmental design projects through inter-disciplinary exchanges amongst student groups and between students and teachers, and also through an actual practice of an interdisciplinary design process.

h- Obtaining a physical product that covers all the scales from the settlement down to the building, in which the competent contribution of each student is made clearly apparent in addition to that of each discipline.

3- CO-ORDINATION AND ADMINISTRATION

The studio will be staffed by all departments that are participating in the exercise. One full-time faculty member from each department per section of the studio is adequate.

Students from all three Departments, who have completed all of their previous studios, will participate in the course. They will form groups/teams in which all three departments will be represented as fairly as possible. Teams of four-to-five students have been found to be most appropriate and productive. The team composition will be maintained throughout the semester, although, towards the end students will be assigned individual tasks, to be carried out in relation with the team work and in co-operation with the other team members.

4- PROJECT

The type and size of projects to be handled in the Inter-disciplinary Studio should be decided along the following guidelines.

a- The problem will be real and practical and not hypo-

thetical whereas the solutions shall be feasible and adequately justified.

b- The project will not involve Metropolitan or city scale decision making of any sort, nor will it include analysis, evaluation or criticism of such decision at large. Although, some decisions of this sort may be made subject to rational evaluation and/or practical revision if and when need be in relation to their direct or strong relevance to the project or the project site, under no circumstance should the internal consistency and cohesiveness of the set of already made higher level decisions be sacrificed or compromised.

c- Differences in the average levels of performance and skill of successive incoming student bodies necessitate consideration in the selection of topics or projects for each new year.

d- If residential projects are selected within the topics handled in the studio, precaution shall be taken to maintain the nature of interdisciplinary design exercise in an urban context.

e- The main emphasis in the studio work must be given to the urban design scale. This is the most appropriate area of active participation and co-operation.

f- The site shall be selected within Jeddah to minimize problems of travel and access.

5- PHASES OF THE PROJECT AND FINAL ASSESSMENT

The selected problem must be of such a nature and size as to make the participation of all School of Environmental Design discip-

lines necessary and meaningful in all of the following five basic phases:

- a- Comprehensive Analysis pertinent to the problem, the site and all of the related issues, to be submitted in a graphically illustrated/supported report.
- b- Master or Directive Plan for the whole site, to be submitted in scale drawings and a report.
- c- Urban Design Scheme of a smaller zone/area within the site, to provide sufficient potential or variety for the following phase, to be submitted in scale drawings and a supplementary concise report on Urban Design Guidelines.
- d- Individual Projects of relevant disciplinary nature selected preferably from the Urban Design Scheme (Compulsory for Architects) to be submitted in scale drawings. Topics in this phase will be handled by individuals during the allocated time of no less than 4 weeks. During this phase faculty attention will be directed to one's own Departmental students. Departments may allocate additional faculty for this part if need be.
- e- Revision of all previous phases and work in light of the feedback obtained from the later phases of the project.

G- DESIGN STUDIO AR 610 (GRADUATION PROJECT)

The Graduation Project is the culminating studio in which the student is expected to prove that he has acquired the whole range of skill/knowledge that is defined as the basic minimum for him to take his place amongst the profession.

1- FUNCTIONAL COMPONENTS AND ADMINISTRATION OF THE STUDIO

Basically, there are two major academic components to be distinguished: AR 601 GRADUATION PROJECT I - Research and AR 610 GRADUATION PROJECT II - Design, as two consecutive courses, and their respective operational elements/requirements.

Administrative affairs of the studio on a policy making level is carried out by a STEERING COMMITTEE that consist of the Course Co-ordinator (to be the same if possible for both AR 601 & AR 610 courses) and co-ordinators of other active studio courses in the Department. The Chairman of the Department heads the Committee.

a- The ARC 601 GRADUATION PROJECT I - Research course has three operational elements/requirements:

- i- Graduation project topic selection;
- ii- Pertinent case study/studies;
- iii- Background report for approved graduation project topic.

b- The ARC 610 GRADUATION PROJECT II - Design Studio course, has two operational elements/requirements:

- i- Project design (drawings)
- ii- Project report (text).

2- TOPIC SELECTION PROCESS

Topic selection for the AR 610 course will be made during the preceding AR 601 course. No later than by the first week of every semester, the Steering Committee shall meet to determine a listing of suggested graduation project topics and/or topic areas deemed suitable for the current year. This shall be announced to the prospective AR 610 students by the second week of the semester and done on the basis of the following criteria:

- a- The needs of the Kingdom and of Saudi Society, as specified/ determined in the Development Plan for the current period. The provision of a diversity sufficient to address the various interest areas of individual students should be considered.
- b- The definability of such project parameters as scope, budget, client, location and/or site.
- c- The accessibility to students of relevant and necessary background information as well as of the locations themselves.

3- AR 601 REQUIREMENTS

At the end of the AR 601 course, each student shall submit to the Course Co-ordinator, a comprehensive background report concerning all relevant aspects of his graduation project topic. The investigative and research activity pertaining to the preparation of this report shall be assumed to commence upon the formal approval by the Steering Committee of the students' respective topic proposals and proceed at the individual student's own discretion. Two case studies related to the topic of proposal will form an

integral part of this report.

Background reports shall be evaluated by the Course Co-ordinator and the grade so received shall stand in lieu of the final examination grade for the AR 601 GRADUATION PROJECT I - Research course.

4- PROJECT DESIGN:

Project Design is carried out in three consecutive stages as follows:

a- Analysis Stage:

On the basis of their background reports, students shall make a thorough analysis of their project topic according to an outline provided for this purpose in order to fully grasp and understand the various and complex aspects pertaining to it. A maximum of two weeks shall be allowed for this stage.

b- Design Stage:

On the basis of the analysis described above and in constant reference to it, students shall undertake at this the physical design development of their respective projects. This shall be in accordance a phasing and refinements schedule totalling eight weeks.

c- Project Report submission:

At the end of the eleventh week each student shall submit a project report in partial fulfilment of the requirements of the AR 610 graduation project course. Particulars regarding content and other aspects of this report are to be supplied.

d- Project Presentation Stage:

The two weeks of the Spring Semester immediately preceding the Final juries shall be allocated to the preparation of projects for final presentation. General requirements for this presentation are to be defined by the course tutors.

The course structure for the Graduation Project as outlined above was implemented for one semester under the Coordinatorship of Dr. Arda Duzgunesh, assisted by Numan Cebeci and Dr. Anis Siddiqui as co-tutors, in the Fall semester of 1986. The physical workings of the structure was thus tested and found to be satisfactory. It has to be noted that special circumstances of the Saudi scene demands a more structured approach to the design courses than may be desirable in a western context. Although there is resistance from the student body to programmed procedures which demands specified work periodically, the results in productivity as well as progress in assimilating design ideas and generating feasible solutions have been significant when compared with the free reign coordination that had been the tradition before.

NOTES ON CHAPTER NINE

- 1 King Abdulaziz University appointed in 1975 Dr. Maurice Kilbridge, the then Dean of The Graduate School of Design at Harvard, U.S.A. to develop the programme for a School of Environmental Design. An international group of experts were called for preliminary consultation and then Dean Kilbridge prepared the programme that was finally implemented. He had to find an acceptable name in the field of architecture to assist him. Professor Jerzy Zoltan, of the same university, became his assistant and together they retained a consultancy role up to the year 1983, monitoring the programme of the School of Environmental Design.
- 2 A task group was formed under the coordinatorship of Dr. Abdulmuhsin Farahat to draft the proposal as contained here.
- 3 From the "Final Report of the Task Group for Evolution of the Built Environment Sequence Syllabus", submitted in January of 1983 for the consideration of the S.E.D. Council.
- 4 Task Group that was delegated with the responsibility for preparing the proposal was co-ordinated by Numan Cebeci of the Department of Architecture and a number of other members either as full time or in an advisory capacity. The report was kept open for discussion till the end of 1983 and submitted in 1984 for the approval to the councils of the University. There was no decision till end of 1986.
- 5 One critical observation regarding the Design Studios is made by Stringer:

"...The Design Studio is probably the most rigorous and advanced system of teaching complex synthesis in the university...

[However] the crippling aspect of the design studio is the fact that the student never produces buildings [which can be tested].

The student is stopped short at the half-way house of creative activity...It is as if we were to imagine a young artist spending his time at school making cartoons for paintings or maquettes for sculpture; or a young scientist formulating theories without deriving hypotheses from them, or designing experiments without ever carrying them out...

Creative designing should involve putting the hypothesis to the test...The architectural student is invited to produce hypothesis but then must treat them as fictions. If art and science education go wrong, it is in concentrating too exclusively either on fictions or on hypotheses...But architecture education makes the much worse error of compounding fiction with hypothesis..."

P. Stringer, 'The Myth of Architectural Creativity', Architectural Design, Oct. 1975

- 6 Department of Architecture formed a Steering Committee headed by the Chair-

man of the Department, (present author), to review and develop a comprehensive proposal for the restructuring of the Design Studios. Dr. Ahmed Eyuce contributed to the major part of the thinking as regards the structural composition of the earlier studios. Mr. Hildebrand Frey's studies provided the conceptual framework for the Modular studios. Mr. Numan Cebeci was instrumental in the formulations of the Interdisciplinary Studio and Dr. Arda Duzgunes had the major hand in the formulation of the Graduation Project Studio. Dr. Murad Abdul Muhsin was also actively involved in the deliberations of the Steering Committee that drafted the final Manual.

- 7 For a discussion of the issue see I: Julian Beinart, 'Analysis of Content of Design', in W.L.Porter and M.Kilbridge, (Directors), Architecture Education Study, (1981), Vol.1 pp. 26-27.

CHAPTER TEN:

CONCLUSION

God Addressing Man

I created the world one, with mere water and earth
You carved it into an Iran, a Tatar and a Zeng
To dust I endowed pure iron
You converted it to swords and arrows and guns
Created you the hatchet, cutting down the garden
Created you the cage, imprisoning the song bird

Man Explaining himself to God

You Created the night, to that I brought the lamp
You Created dust, of that I made a bowl
The barren land, the harsh mountains, the inhospitable expanse
Converted I to gardens, rose beds and pleasing vistas
I, the one who makes mirror from your stone
I, the one who extracts cure from your poison.

Muhammad Iqbal
"Dialogue Between God and Man"

The work contained in the previous nine chapters can be considered as a bite too big to manage in one chew. In fact, it could have been trimmed down to smaller portions with much more limited goals than those set at the start and patiently pursued till the finish.

The Major theme of the study around which everything else revolves is centred upon a new term, though not new to Islam, that of AL-^ʿIMĀRAH. In keeping with the suggestions of Professor Fārūqī it will now be left without an underlining, and proposed for use as an additional term in the rich vocabulary that English language is blessed with in all fields of sciences. Having

explained the conceptual meaning that the term represents, there should not be any confusion as to when and in what context it should be used. With it will go the hope that the misnomer "Islamic Architecture" will be struck off the list of terms having no scientific worth as such. The attempt at contrasting Al-°Imārah in opposition to "Architecture" should not be taken as a mere play with words or as a polemic of East versus West. Despite its epistemological origin the term "Architecture" has, at times, been interpreted to hold meanings akin to the concept of Al-°Imarah. There is nothing wrong in holding fast to established terms but ascribing different meanings to them if this would be agreeable to the scholars. But than what do we do with the buildings that go against the concepts embodied in the term Al-°Imārah?

In the case of the Muslims the attempt should be the opposite: to re-clarify the original meaning embodied in Al-°Imārah and cleanse it from later acquired flavours. The difficulty faced here may be understood better if an incident related to the terminology suggested is recalled. The report submitted in 1983 to Umm al-Qura University was titled in English as "The School of Al-°Imārah". Consciously the term "Islamic Architecture" was ignored. However the Arabic version of the same report was titled Al-Madrasah al-°Imārah al-Islamiyyah. This was also consciously done by the University authorities who were painfully aware of the fact that in the present day usage everyone took Al-°Imārah to correspond to "Architecture" and the meanings associated with architecture. For the English speaking questioners who would enquire as to what Al-°Imārah meant, an explanation could be

advanced. But in Arabic the term would not be questioned as an unfamiliar entity, everyone assuming themselves to be perfectly well aware of what it meant. This incident also highlights the contradictions and forced compromises that litter the path of intellectual endeavours in the Lands of Islam.

Arriving at the conceptual basis of Al-°Imārah terminologically indicated in much sharper outline the lack of, and a need for a Theory of Al-°Imārah. Only in its development lies a more universal acceptance of the concept and the Discipline of Al-°Imarah. This is the question that begs others to join in the rewarding effort towards its assembly.

Around this central theme was built a major and a minor proposal in order to give practical relevance to the ideals of Al-°Imārah. The major one, the model developed and submitted for application at Umm al-Qura University is not intended to be a localized model. Within it are elements that are hopefully to be found worthy for consideration on a universal basis in their relevance. The Wahdah as a crucible in which the design process is attempted to be taught in an interrelated and integrated theoretical/practical learning process should have applications even when the references and postulates suggested may not find ready acceptance for understandable reasons.

The minor attempt aimed at modifying the contents of an existing model, by necessity, was confined to upgrading or reforming individual courses. The proposals for a new course, "The Evolution of the Built Environment" to replace the history courses,

and the structured approach to the running of the Studios can together generate a fresh approach to design teaching in traditional schools. In this instance the proposal was much more "parochial" in the sense that the structure was made to conform to the constraints of an inter-disciplinary approach to the teaching of environmental design professions. But both in the inter-disciplinary nature of the School, which is more in line with the epistemological approach of Islam than the other traditional schools, and in the two courses handled, pertinent questions will be found to validate changes in other schools along similar lines.

The results are but theoretical as yet and need to be proved in practical living laboratories, the schools of al-‘Imārah as well as the schools of architecture. The excitement therefore still lies ahead.

APPENDIX ONE

EPISTEMOLOGY AND EDUCATIONAL THEORY IN ISLAM

The following text on Epistemology and Educational theory in Islam is a translated extract made from a series of taped lectures delivered in Turkish by Sheikh Ibrahim Eken of Kayseri - Turkey to an audience of University professors in Istanbul between the years of 1975-80. Sheikh Ibrahim, who has had his education in the Faculty of Theology in Ankara and later at the Faculty of Arts at Baghdad University, was a student of late Sheikh Muhammad Fouad al- Aloussi of Baghdad, from whom he received his Ijāzah al-Ilmiyyah in the year 1957. He served at various levels of the Diyanet İşleri Başkanlığı (Presidency of Religious Affairs) - Ankara, finally becoming a member of the Din İşleri Yüksek Kurulu The Religious Affairs Higher Council of the Presidency. He retired from the Presidency in 1978. At present he is active in private teaching in various branches of Islamic Sciences in Kayseri.

These lectures are in the process of being edited for the purpose of publication. In view of its relevance and importance to the topic, and bearing in mind the non-availability of any authoritative book on the subject, it is included here as the next best action that could be taken.[1] The extracts do not do justice to the texts of the original lectures and any incongruity has to be blamed on the present author who attempted the exercise of extraction.

The notes added to the extract are also the author's and provide further clarification of the concepts, terminologies, and other evidence that readers may not be familiar with.

PART ONE:

CLASSIFICATION OF ‘ILM(KNOWLEDGE) IN ISLAM

Before we embark on defining the way ‘Ilm (Knowledge)^[2] has been classified by scholars of Islam, an understanding of the nature of knowledge will be required. In any venture that one sets upon, the acquisition of ‘ilm pertaining to that particular venture is a pre-requisite according to the tenets of Islam. Without its acquisition the venture itself will be doomed to failure. This tenet was clearly and distinctly established at ‘Ālam al-arwāh (The World of Souls) where Allah Almighty pronounced His intention to make Adam, (on whom be peace), His Vicegerent-to-be on Earth. Disregarding the implied concern of the angels to this, Allah Almighty taught Adam all the names after which he proved his capacity to the angels, who then, prostrated themselves before Adam in submission to Allah. Being taught all the names is interpreted by the major scholars of the science of Iafsir as Adam having been given ‘ilm (totality of knowledge) that would arm him for his vicegerency role.[3] In a way the decision to appoint Adam as the Vicegerent-to-be necessitated that he be armed with the ‘ilm he would require in carrying out his duty. Similarly Islam places upon Adam's progeny this responsibility from which they cannot escape or withdraw, the responsibility of acquiring the relevant ‘ilm before embarking on a particular act.

In Islam ‘Ilm is considered to be all that has been given to Adam at the act of the creation. Allah Almighty did not give the totality of knowledge possessed by Him. The totality of what has not been taught to Adam is referred to as Ḥayb (the Unknown) in Islam. For example amongst such knowledge is the nature of the soul the knowledge of which Adam's progeny will never possess. We only know of its existence and its manifestations on the body. Belief in the Ḥayb on the authority of the Qur'an is one of the important elements of the system of belief in Islam.

Based on this precedent Islam establishes in its Nizam (World Order) the principle that assignment of responsibility necessitates delegation of authority; and authority should be supported and accompanied with the means through which such authority can be implemented. Otherwise implementation of authority will be just in name and detrimental to the order rather than upholding the order.

Once the necessity of acquiring ‘ilm is established a question arises in the minds. What is ‘ilm? Does it include every conceivable bit of information as regards goodness as well as the evil, useful as well as useless?..The answer to this question in Islam is a qualified "No". In the first instance a distinction is made between ‘ilm as (knowledge) with specific attributes and jahl as (ignorance) having the opposite attributes to the former.

i- NATURE OF KNOWLEDGE

For anything to be considered as ‘ilm, it must possess the following five positive attributes. In contrast, the reverse of these attributes in their negative would indicate the absence of ‘ilm, or in other words the presence of jahl, as follows.

- 1- ‘Ilm is always constructive and not destructive. Destruction does not require science or knowledge. Construction on the other hand does. If one comes across an activity aimed at the destruction of order, of an institution, of an entity, be sure that it is guided by ignorance and not by science or knowledge.
- 2- It is enlightening and never brings darkness. In Qur'an Allah Almighty equates ‘ilm with nūr (light). "Can Light be equated with darkness?" 14:1
- 3- It is an explainer, opener of curtains, sets forth and clears, declares. In contrast ignorance blankets over, obstructs understanding and confuses issues.
- 4- It is a reformer, corrector, repairer. It does not corrupt, lead to mischief or intrigue.
- 5- It is a guide, and shows the right way. It does not misguide into wrong avenues.

These are the attributes of all the knowledge that was taught to Adam so as to enable him to implement his Vicegerency on Earth.

A further division of knowledge is made on the basis of its usefulness. Prophet Muhammad himself, (may Allah bless him and grant him peace), in one of his supplications to Allah Almighty sought refuge in Him from knowledge that has no use.[4] Thus ‘ilm (whilst by its nature and previously mentioned attributes is always useful to some particular purpose) will not be of use in each and every situation. In such cases its acquisition for its own sake will be deprecated by Islam.

The acquisition of knowledge, after having achieved the above stated attributes and thus acquiring the status of ‘ilm, becomes wājib (incumbent) upon all Muslims in Islamic law within a defined system.

In the first instance this ‘ilm is considered to be composed of two parts, Fard al-‘Ayn [obligatory upon each and every Muslim to acquire] and Fard al-Kifāyah [obligatory for the communities of Muslims to acquire, the acquisition of knowledge that is Fard al-Kifāyah by some and therefore its availability within a community would remove the obligation from the rest of the Muslims in that community].[5]

Three groups of knowledge are considered as Fard al-‘Ayn in Islam, and their acquisition obligatory upon all Muslims whatever their vocation or place of abode. This is the minimum that each and every adult Muslim has to acquire. They are:

‘Ilm al-‘Aqā'id (Tenets of Faith), knowledge that pertains to the system of belief;

‘Ilm al-Hāl (catechism), knowledge pertaining to ‘Ibādah, (worship) which forms part of the Science of Fiqh, to be explained later; and finally,

‘Ilm al-Akhlāq, knowledge related to personal relations between members of the community. It is part of the Social Sciences which also will be referred to later.

No Muslim can plead ignorance of the contents of these three fields and seek immunity from its consequences. The remainder of the totality of ‘Ilm is considered to be Fard al-Kifāyah and necessary for some amongst a community to be in possession of. It entails the presence of scholars (such as scientists and professionals) in every branch of science and profession who are prepared to teach these to those willing to learn. The failure to make provision for such knowledge makes the whole community responsible and accountable in the Hereafter. It should be stressed here that the accountability will still be on a personal basis for each and every member of the community. There does not exist corporate responsibility in Islam.

ii- DISCOVERY AS OPPOSED TO INVENTION OF "KNOWLEDGE"

Again, before one takes up the system of classification, a conceptual clarification of the nature of ‘ilm and its acquisition has to be made. It was stated earlier that in Islam Insān (Man) is considered to have been endowed, at the point of his creation, with the totality of knowledge. This 'total knowledge' is embedded within the depths of his unconscious world and has to be brought to the forefront of his consciousness through his personal striving in order to be manifested and made use of.

Thus in attempting to learn or seek after knowledge one does not think of an "invention" or "acquisition" of an exteriorized entity as such but of "discovery" and "exploration" of something within, for the knowledge of all things is already available in the constitution of Insān though hidden from him within the depths of his unconscious world.[6] The effort required to bring it to the forefront of his consciousness necessitates a methodology that is not only specific to the particular area of discipline but also mental/spiritual, demanding a kind of control over the "self" too.

In addition to the ruh (soul) that has been endowed at its creation with the totality of knowledge by Allah Almighty Insān is also considered to have been given another spiritual entity inside the mother's womb which is known as nafs (the spirit of "self"). These two entities are also known as the "True spirit" and the "Evil spirit". Imam Ghazali identifies the first as having the attribute of being knowledgeable and instructive, whilst the second is attributed as being potentially obstructive, obscurant, and generally concealing. Thus the second curtains off the knowledge contained within the first. [7]

To the degree that the hegemony of nafs over the ruh(soul) is removed the knowledge of that particular area flows into the conscious world of the human being.

iii- EXHAUSTIVE AND INEXHAUSTIVE SCIENCES

Having thus identified the general parameters of the nature of ilm, its classification can be introduced. A system of classification of knowledge/sciences is necessary within the general field of learning in order to facilitate the task of its acquisition in one's conscious world.

The most important aspect of the classification is a structural one which divides total knowledge into two distinct categories as ilm al-Qat'i and ilm al-Ihtimāli. These two categories will be represented in English as being equivalent to a- Exhaustive Sciences, in the sense that what they contain is comprehensive, complete and perfect, and b- Inexhaustive Sciences, in the sense that what they contain is unbounded as yet, limitless, still open for further progress and development.

The first category, that of the Exhaustive Sciences, contains those related branches of knowledge that are based upon wahy (revelation). As such they are acquired through the prophets, and finally and definitively through Prophet Muhammad, (may Allah bless him and grant him peace), the last Messenger of Allah, and are not arrived at by reason or experimentation.

The second category, the Inexhaustive Sciences contains those branches of knowledge that are based on reason, experimentation, and acculturation. As such they are bound to change, develop, and progress all the time depending on the striving and endeavours of man and his success in lifting the veils drawn upon the true and complete knowledge present within his being.[8]

Clearly the first category, being based upon revelation and considered as perfected, will be the decisive, prescriptive and final word on the totality of knowledge. Furthermore the development of the Inexhaustive Sciences will always be towards the Exhaustive Sciences. Insān is obliged, in Islam's system of thought, to abide by and implement the most recent position as expressed in the Inexhaustive Sciences. He does this in the full knowledge that after some time what is now considered as true and beneficial may be considered as false and blame-worthy, and he will be abiding and implementing that newly defined position at that point in time. There is one qualification however. If on any matter the point of view expressed in the exhaustive sciences contradicts one in the Inexhaustive Sciences, than the view of the Exhaustive Sciences is accepted and abided by. It is presumed that on that particular point human endeavours has not yet arrived at (uncovered the veils drawn upon) the true knowledge at its present stage of development.[9]

These two categories are further divided up into related fields of knowledge totalling fourteen. There is no hierarchical significance in their order with the exception of the first item in

each category. ‘Aqā'id, and Adab hold a leading role within their categories and are fundamental for that category.

A- EXHAUSTIVE SCIENCES

- 1- ‘Ilm al-‘Aqā'id (The System of Belief). Deals with what to believe and how to believe in.
- 2- ‘Ilm at-Tafsīr (The Science of the Interpretation of the Qur'an.) Bringing the meaning of the Qur'an to the level of understanding of the scholars.
- 3- ‘Ilm al-Hadīth or ‘Ilm al-Riwāyah (The Science of Prophetic tradition). What The Prophet asked to be done, tacitly approved of in others' actions, and what he himself did.
- 4- ‘Ilm al-Fiqh (The System of Canonical Jurisprudence). Deals with all injunctions related to ‘ibādah (worship), mu‘āmalāt (man's actions in relation to others) and ‘uqūbāt (punishment).
- 5- ‘Ilm at-Tasawwuf (Knowledge pertaining to Sufism). Deals with what is called "illnesses of the heart". It is wrongly considered as being related to "Mysticism" or "Asceticism" of pre-Qur'anic periods. (See terminology)

B- INEXHAUSTIVE SCIENCES

- 1- ‘Ilm al-Adab (Literary Sciences), dealing with linguistics, and the art of expressing by the tongue what has been conceived in the mind.
- 2- ‘Ilm al-Ijtimā‘iyyah (Social Sciences), with all its minor, major branches.
- 3- ‘Ilm at-Tibb (Medical Sciences). Knowledge pertaining to physiological health of the body.
- 4- ‘Ilm an-Nafs (The science of Psychology). Knowledge pertaining to the sub-conscious world of human beings. It deals with the manifestations of the spirit (psyche) and not about its nature within the body. The nature of the spirit is not amongst the knowledge given to Man.
- 5- ‘Ilm at-Tijārah (Science of Commerce). Exchanging an article with inherent value with another also possessing an inherent value. In time "money" has replaced one of the exchanged articles to facilitate commerce. Unless there exists an inherent value in an article it cannot be exchanged or commercially transacted.
- 6- ‘Ilm al-Iqtisād (Science of Economics). The science that deals with means of achieving equilibrium between istiḥṣāl (the primary produce), ‘imalāt, (manufactured goods), and istiḥlāk, (consumption). There are different laws applicable to primary produce and manufactured goods in Islam.
- 7- ‘Ilm at-Tafakkur (Mathematical Sciences). Logic is the methodology of these sciences.
- 8- ‘Ilm al-Hikmah (Physical Sciences). Matters pertaining to Physics, Chemistry and similar.
- 9- ‘Ilm al-Hay'ah (Earth Sciences) including all planets of the universe, their geography, geology, astronomy, cosmography, space sciences.

Any dissent as regards the generalization into the fields stated above or their further division into specifics is not critical for our purpose here. It would be a matter for those specialized in the concern area to expand further and detail the specifics. What should be stressed here is the Exhaustive and Inexhaustive Sciences framework within which any learning activity in general and educational programmes in particular should function.

Division of Knowledge into categories should not be confused with "Disciplines" as such. Every discipline uses knowledge from all of the fourteen fields enumerated above though one field may predominate in its composition. There is no necessity to identify a discipline with any single field. The more fields that a discipline interacts with, the more profound and meaningful becomes its application in the service of human beings.

C- LEVELS OF COMPREHENSION AND EXPRESSION

There is a very important dimension of the categorization as defined above. Every matter that we face in our life will have an aspect related to each of the fourteen fields. Thus our ability to comprehend a matter fully depends upon our possession of a minimum amount of knowledge in all these fourteen fields. Deficiency of knowledge in any of the fourteen fields would impair our understanding of a matter in its totality and leave our comprehension incomplete.

Based on this consideration the totality of knowledge as contained within the fourteen fields is further categorized in a vertical scale into two levels. The lower level, to be acquired generally by all, and thus of a foundational character, will be referred to as the Thaqāfat al-Idrak, (Level of the Culture of Comprehension). The higher level, which will have a specialization character and expected to be acquired only by those who are working in the field as specialists, will be called Thaqāfat al-Ifādah (Level of the Culture of Expression).

An average human being, by the time he reaches the age of puberty (the time a person becomes mukallaf in the consideration of Islam) should have been provided with the knowledge in all fields up to the minimum level of Culture of Comprehension in each field. This is obligatory and necessary in order to enable an individual to comprehend a matter in all its total facets. Lack of attainment of knowledge up to that level in one field (especially in one of the fields of the five exhaustive sciences) will burden him with a distorted view based on insufficient knowledge. If not achieved by the age of puberty learning should continue to complete it as soon as possible.

Over and above this level, specialized knowledge in one particular field, or in one of the branches within the field, will be sought by those interested. He would have to attain the level of Culture of Expression in that selected field or branch in order to be able to utilize it in the service of his community, either by dispensing the knowledge to others to increase their level of

comprehension, or dispensing service in an area of need for his community [10]

Earlier a distinction was made between knowledge considered as Fard al-^oAyn, and Fard al-Kifāyah. Though a Muslim will not be accountable for not having acquired the Level of Culture of Comprehension in all the fourteen fields, he faces the danger of not being able to comprehend a matter fully if it comes within his field of concern demanding a decision or a choice. His act of choice or decision with an impaired comprehension would apportion a responsibility upon him to be accounted for in the Hereafter.

PART TWO:

TARBIYYAH - EDUCATIONAL THEORY IN ISLAM

In considering the topic of tarbiyyah, (education) within the world order that Islam has defined, one particular matter is of prime significance. It concerns the position that Insan holds within the creation. Unless Insan is known with his attribute of being mukallaf (under an obligation) within the creation and unless the rest of the creation is known by its attribute of being musakhkhar (in service of man to enable him to carry out his obligation), the topic may not be fully understood.[11] Assuming that this understanding exists, the subject of education and its nature can be looked into.

Tarbiyyah will be defined here as the totality of that particular effort that man goes through so as:

- To bring the knowledge that has been placed within his unconscious inner world at his creation to the forefront of his consciousness, and
- To enable those abilities inherent in him by the nature of his creation to gain the familiarity of use of this knowledge and achieve the state of a learned reflex act.[12]

A number of qualifications expressed earlier will be useful if re-stated here once again. The knowledge thus sought should not be without benefit and furthermore, its pursuance should be sanctioned by the Exhaustive Sciences. Not all knowledge is considered to be "useful". Seeking knowledge for the sake of knowledge is contrary to and deprecated by the system of thought of Islam. Far from being considered as an end in itself, knowledge sought must be instrumental to some higher ultimate goal that is of functional use to human beings.[13] There does not exist an education in the abstract in Islam.

Definition and description of Tarbiyyah as a word and term is more comprehensive within the field of knowledge. In the dictionaries it is associated with "being in possession of; being in charge of; being able to develop, protect and preserve".

It is meant to be the patronage, protection and development of the good, the beautiful and the true. In Islam the measure of what is good, beautiful and true is Prophet Muhammad himself, may Allah bless him and grant him peace. This being so the above phrase can be restated as: the act of establishing, patronizing and protecting all that Prophet Muhammad, peace be upon him, has said to be true, good and beautiful.

As a specific term Tarbiyyah is defined as the act of gaining the ability to uphold the Divine Laws within one's own self as well that of the others.

1- METHODOLOGY IN EDUCATION

As defined above there are two particular facets to Education:

- 1- The transference of knowledge (contained within all the fields defined in the epistemology of Islam) possessed by the soul to the forefront of man's consciousness. This is termed as Ia^clim.
- 2- The development of the habit of usage with those abilities inherent in man's nature. This is done through Iamrin (practical exercises).

These may also be considered to be the "Theoretical" and "Practical" aspects of education and each should utilize different means to achieve its realization.[14]

In the first case, where transference of knowledge to the forefront of man's consciousness is to be achieved, the methodology used is considered under five sub-groups. It should be understood however that everything in the creation, because of its musakh-khar nature, can be utilized by Man during the process of education and learning. Thus whilst being forbidden to hunt for pleasure if the meat of the hunted animal will not be consumed, and thus wasted, there is no prohibition on experimentation being carried out on animals in order to further the boundaries of knowledge within one's consciousness.

The sub-groups are based on the five senses as follows:

- 1- By way of oral/audial expression, using the tongue and the ear;
- 2- By way of visual observation, using the eye;
- 3- By way of contact, using the feel of the skin and the grip of the limbs;
- 4- By way of taste, utilizing the taste buds of the tongue and mouth;
- 5- By way of smell through the nose;

In each of the above categories, tools and equipment that are specially related to the sub-groups and the particular field of

science under consideration, are utilized in transferring the knowledge to one's conscious world. It is a fact of human nature that the knowledge thus exposed may in time be lost and forgotten. This will be more difficult to do in the case of application skills that will be referred to later.

There are six specific principles to be observed in carrying out the teaching activity under the above mentioned five sub-groups. These are:

- 1- Only the true knowledge is taught in detail. In education the false is never taught even in conjunction with or as contrast to the truth. A method that tries to arrive at the truth by teaching the false perpetuates also the continued knowledge and by inference application of the false.
- 2- Expressions utilized must be kept within the level of comprehension of the learner.
- 3- Introduction of the subject matter should be in a simplified form, and wherever possible in individual units, not couched in complex statements. Synthesis and integration between topics are attempted at a later stage.
- 4- Avoidance during the teaching process of the usage of those terms that have yet to be learnt. Terminology being the basis of science should be introduced clearly and at the right time so as not to leave any confusion or doubt in the mind.
- 5- At the conclusion of the presentation, a synthesis of what has been presented should be made so as to assure the comprehension of the subject matter.
- 6- In the presentation, unity of the subject matter should be maintained. Teaching of a subject within a subject should be avoided.

These six principles assure the shortest and most effective means of bringing knowledge to the forefront of one's consciousness.

In the second case where development of the habits of usage of the transferred knowledge is the concern, four general principles will apply.

- 1- Not to present anything that is a practical impossibility. Otherwise it will be an occupation with the useless. However science never deals with the useless. It is always concerned with application.
- 2- The instructor must also be an applier of the knowledge. He should personally show its application. For this reason every science has to be taught and practised in laboratories particular to itself. Separation of theoretical knowledge of a skill base from its totality in order to enable its teaching in a class, and removing the practical applicative

aspects to be demonstrated in a laboratory, is considered inappropriate.

- 3- In order to achieve the familiarity with the skill, its repetition at least three or more times has to be assured.
- 4- In teaching the skills, application should be made by a group and not by a single candidate.

ii- PREPARATION OF THE SUBJECT MATTER IN AN EDUCATIONAL PROCESS

In education any particular unit of information to be presented must be the result of a scientific effort. No effort can be considered as scientific unless it passes through the following five stages.

- 1- Literature review. What has been stated on the topic in the past has to be sifted in available resources. Man is obliged to start with what has already been achieved by the universal human effort, and not at zero point. He is obliged to acquire the existing knowledge already exposed to the use of humanity and build upon it from that point onwards.
- 2- Basic Research. During this stage the topic is investigated in research laboratories without any intervention. Here the topic is only observed without interfering in its workings.
- 3- Critique. A critical assessment is made of the information obtained through literature survey and observations during the basic research stages, thus arriving at a hypothesis or conclusion. The methodology employed is an analysis of the established points, their classification, and final synthesis leading to a conclusion.
- 4- Experimentation. Synthesized conclusions are put into application in experimentation laboratories. In contrast to the basic research stage the topic is given specific directions and its behaviour under different conditions noted. In order to ascertain the validity of the hypothesis many repetitions are required.
- 5- Application. The conclusion that has been ascertained during the experimentation stage is put into application and presented for the benefit of man. Without there being a particular use in application, findings would be useless and the effort a waste of time and of resource and thus generate accountability in the Hereafter.

If one of these stages is missed then the final result will be suspect in its scientific relevance. Those who are involved with the process of education, especially at the tertiary level, must make sure of the scientific validity of the topics to be presented by developing them through the above five stages.

iii- STAGES AND COMPOSITION OF EDUCATION

In the educational theory developed by scholars of Islam the process itself is dealt with as three distinct areas as follows: at-Tarbiyyah al-Mutlagah (basic/absolute education); at-Tarbiyyah ad-Diniyyah (religious education); at-Tarbiyyah li-l Ikhtisās (Education for Specialization - professional/vocational).

A- BASIC EDUCATION

It is the absolute or the principal part of the totality of the process of education that is a basic necessity for everyone. It is further divided into four sub-sections based on the age periods of man. Though some boundary of age is indicated in the system of Islam these are not absolute boundaries and may be less or more for different persons.

- 1- The Nursery Stage, starting with birth and going up to around six/seven years old. The major responsibility during this period rests with the mother. The learning activity is based on observation and repetition. The child would hear, see and by repeating what he hears or sees adapt himself. The critical aspect of the education during this stage is to ensure that the child does not observe any forbidden acts emanating from the parents or those people who have the respect of the parents.
- 2- Elementary Schooling Stage, from around six to fifteen years, corresponding to the primary and junior secondary school stages of today. The limit of the age is related to the entry into adulthood which is the significant point in Islam whereby obligations of the faith becomes compulsory upon the self and mukallafiyah of the person is deemed to start. Responsibility for teaching rests mainly with the teachers at school. However the family continues to play a role though now the father shoulders the major portion of this responsibility as the child has to be acclimatized with the society at large. At school the teachers aim at the development of the abilities of the mind of the child so as to comprehend the fourteen major groups of sciences defined within the epistemology of Islam. Course contents organized for this purpose should contain examples and observations that emphasize the recommended, and praiseworthy examples of conduct.
- 3- Final Schooling Stage, starting with the age of entry into adulthood up to around twenty four years, which includes present day senior secondary and tertiary level schools and colleges. However professional or vocational training itself will not be part of this stage and only the amount of the basic education pertaining to the total education at this level of a person's development, as well as the basic education relevant to the particular professional or vocational training that this stage may contain will be addressed.
- 4- Adult Education Stage, that applies to all ages but especially to ages from around twenty four onwards. This stage

is also identified as the education of the public along the dictum of amr bi-l ma'ruf wa nahy 'ani-l munkar (ordering/encouraging the good and forbidding the reprehensible). The critical aspect of this stage is to see that only those matters that have received the common consent and concurrence of the scholars are included in the teaching process whilst things on which disagreements exist are shunned from presentation. This would also be critically applied during the basic education part of the vocational and professional training programmes.

B- VOCATIONAL TRAINING

The particular activity, organized within schools or through apprentice systems outside the schools, that aims at conscious realization of vocational or professional skills and knowledge. It is the effort that aims at the acquisition of required skills by the limbs and body as a matter of habit in relation to the particular professional/vocational topic.

C- RELIGIOUS EDUCATION

The attempt to strengthen, and develop the consciousness and comprehension of the sense of religion that is present in man's nature along the true path as ordered by Allah Almighty. It should be observed here that the teaching of the procedures and requirements of various acts of 'ibādah comes within the Basic Education outlined earlier and not in Religious Education as such.

The core of Religious Education consists of making the self realize consciously its own position as an abd and the Creator as the Rabb. The instinct of Rububiyyah is the source of this consciousness and is one of four that are in-built in human nature. They form the sources which, unless properly educated and trained, lead one into sin. It is with the Rububiyyah instinct that one comes to know the Lordship and providence of Allah Almighty. However, without its proper moulding and correction it leads Man into Shirk (ascribing partner to the Creator). Vanity, conceit and pride result from failure to educate one's instinct of Rububiyyah. The conscious realization that Rububiyyah as an attribute only belongs to Allah Almighty and consequently Man is obliged with 'ubūdiyyah will have its particular relevance in every stage of the educational process.

The second instinct that Religious Education deals with is that of Shaytaniyyah. With its proper training Man can protect himself from being misled by the devil. Otherwise it will become the source of all deceit, envy, enmity, and hate from which all arise.

The third is the instinct of Bahimiyyah (animal instinct). Maintenance of a healthy physical constitution, and procreation of the humanity is dependant upon the proper training of this instinct. From its regression develops all the lusts of the flesh and other organs.

Finally comes the instinct of Sebuiyyah (being like a beast of prey). Its proper training will make one sacrifice his life in the way of the Creator. Otherwise it will become the source of all the sins that are associated with violence, sadism, force, and killing.

In the field of religious education, as applied at all four stages of the Basic education defined above, two critical attitudes are always present in the educational process. The first is based on 'confirmation', and the second on 'application'.

The first aspect aims at the conscious appreciation of the fact that truth can only be obtained from the words of Allah Almighty and from the deeds and statements of the Prophet, as expressed in the considered opinions of the Mujtahids who are the only ones qualified to extract injunctions from these two sources.

The second aspect deals with the application of specific actions as ordained by Allah Almighty and the Prophet. These have to be taught and their repeated application required until they become natural motor actions of the person.

As regards the Religious Education component of the Vocational/ Professional Training a third aspect is added to the two already mentioned whilst defining Tarbiyyah. These were the transference of the related knowledge to the consciousness of the person, and acquiring it as a skill in hand or body, as a matter of habit, through application and usage. This third aspect becomes critically more important than the other two in becoming the dominant attitude that will colour all actions of a professional man: It is the acquisition of the belief that knowledge realized in the conscious world of the professional man will not be used for a wrong end. A particular way of carrying out a technical action in the most competent and sound manner should not be changed according to the wishes of a client, knowing full well that quality, or safety will be impaired for the sake of the financial gain of the client.

NOTES ON APPENDIX ONE

- 1 In the introduction to the Appendix it was stated that there was an absence of authoritative books on the topic. On education a small pamphlet of 46 pages appeared in 1980 that took up the issue of education. See Syed Muhammad Al-Naquib Al-Attas, The Concept of Education in Islam, (Kuala Lumpur: ABIM, 1980). Professor Attas, who is Professor of Malay Languages and Literature at The National University of Malaysia also refers to his paper 'Preliminary Thoughts on the Nature of Knowledge and the Definition and Aims of Education', presented at the First World Conference on Muslim Education held at Makkah in 1977. In the pamphlet he basically compares the connotation of two terms associated with education, ta'dib and tarbiyah, opting for the first one as the definitive term. There are a number of references to previous works carried out by Muslim scholars in the past on the topic and is a useful pamphlet for those interested in Islamic Education.

Another valuable addition to the scholarship in the field, though topically dealing with institutions of learning is one book by George Makdisi, The Rise of Colleges - Institutions of learning in Islam and the West, (Edinburgh: Edinburgh University Press, 1981). In it Makdisi analyzes the typology of the institutions as they originally took shape.

- 2 In approaching the topic a very important differentiation has to be made as regards the term used in Arabic signifying knowledge or science. 'Ilm (plural 'ulūm) encompasses the meanings associated with 'knowledge' as well as 'science' and also 'discipline'. See also Glossary.
- 3 The particular verses of the Qur'an are 30, 31 and 32 of the second Surah.

30 Behold, thy Lord said to the angels: I will create
A vicegerent on earth." They said:
"Will thou place therein one who will make
Mischief therein and shed blood? -
Whilst we do celebrate Thy praises
And glorify Thy holy (name)?"
He said: "I know what you know not."

31 And He taught Adam the names
Of all things; then He placed them
Before the angels, and said: "Tell Me
The nature of these if you are right."

32 They said: "Glory to Thee: of Knowledge
We have none, save what Thou
Has taught us; in truth it is Thou
Who are perfect in knowledge and wisdom."

The statement that Adam was taught "the names of all things" is interpreted by the mufassirūn (scholars that specialize in the interpretation of the Qur'an) to signify the deposition of all knowledge with Adam. Similarly his

progeny, having exactly the same constitution and endowed with the soul and intellect will have the entitlement and the capacity to inherit the totality of this knowledge.

- 4 The particular Hadith is Allāhumma a'ūdhu bika min 'ilm lā yanfa'. and is recorded in Sahih al-Bukhari as well as other major books on hadith
- 5 See also Note 17 in Chapter 6 and Glossary.
- 6 The basis for this assertion is the same verses of the Qur'an as quoted in Note 1, in which Adam (may peace be on him) is also identified as the Khalifah, and taught by Allah the names of all things. Various interpretations of this verse can be found in A. S. Abdullah, Educational Theory - A Qur'anic Outlook, (Makkah: Umm al-Qurā University, 1982), pp. 81-100.

This particular consideration is one of the items high up on the agenda of modern communication sciences and assumptions made are approaching those defined by Islam. For example in developing computer technology to achieve direct translations from one language to another, scientists are adopting the hypothesis that concepts are universal for all humanity despite the seeming difference amongst languages spoken on earth. This assumption does not deny that a particular concept may not have yet been articulated at the present stage of a language's development but considers the speakers of a language as having the capacity to comprehend and understand, and consequently be able to express it in their own language. Therefore, all languages are directly translatable from one to the other.

In the field of Semantics two opposing views have developed in the past. The "Universalist" point of view looks upon language as a single conceptual system whilst the other, the "Relativist" point of view accepts the existence of as many conceptual systems as there are languages.

Semantics is not our field of concern here, but what is communicated with it, namely the world of knowledge. The "Universalist" view looks upon language as a genetically inherited capability, which all human beings, by nature of their creation can develop. It thus adopts the position that languages share the same basic conceptual framework. This view is also assumed as the basis for the development of a theory of human understanding at Stanford University, California, which could lead to a computer understanding system simulating the human mind. See: R. C. Schank, 'Understanding Natural Language Meaning and Intention', in F. Papp and G. Szepp (Ed.) Papers in Computational Linguistics - Proceedings of the 3rd. International Meeting on Computational Linguistics held at Debrecen, Hungary (Hauge: Mouton, 1976).

- 7 See: Al Haj Maulana Fazal-ul Karim, Imam Ghazali's Ihya-Ulum al-Din by N. 4 volumes, (Lahore: Book House, 1963), vol III pp. 2-3.
- 8 One word of caution and explanation may be necessary here. It would be wrong to consider, as some scholars have done, the first category as "revealed sciences" and the second as "rational sciences". See for example B. Dodye, Muslim Education in Medieval Times, (Washington D. C.: The Middle East Institute, 1962) p. 119. The inaccuracy of such a description is inherent in its implication of "irrationality" to the first category.

One very basic tenet of Islam's attitude to knowledge is its "unity". Faruqi explains the main reason behind this attitude in the following words.

"...for the truth...is none other than the intelligent reading of nature in scientific report and experiment, or the reading of God's revelation in His Holy Book. God is the author of both, and both of His works are public, appealing to no magisterium other than that of reason and understanding."

See: I. R. Fārūqī, 'Islamizing the Social Sciences' in Studies in Islam, vol. 16, no. 2 (p. 117)

The corollary to this attitude is the incompatibility of a "secularized" attitude to knowledge in the Islamic way of thinking, whereby "Caesar's" and God's dominions are separated in the academic sphere too by awarding the scientific domain to Caesar. K. Cragg is one of the more perceptive theologians of the Christian church who identifies this concern of Islam in the following statement.

"...There is no contemporary faith more radically involved in this type of secularity, for there is no faith that has so ambitiously or so programmatically related the human order and the Divine will."

See: K. Cragg, The Privilege of Man: A Theme in Judaism, Islam and Christianity, (London: The Athlone Press, 1968), p. 208.

- 9 A simple example can be given to illustrate this point, one which is interesting also from the point of view of environmental design, is the changing understanding of the differing functions of the two sides of the brain. Nineteenth century scientists theorized that the left hemisphere of the brain was the major or dominant one in that it is the seat of language related functions and thus connected with logical thinking and reasoning. The right hemisphere, in this theory, was thought to be less advanced, mute, and endowed with capabilities of lesser significance. This theory is now defunct.

Work carried out by the 1981 Nobel laureate Roger Sperry has now superseded this theory. The citation for the prize identifies the significant change that took place in man's knowledge of the brain. The prize was given for "extracting the secrets from both hemispheres of the brain and demonstrating that they are highly specialized and also that many higher functions are centred in the right hemisphere" and for bringing out new scientific knowledge that the right hemisphere "is clearly more superior to the left in many respects, especially regarding the capacity for concrete thinking, spatial consciousness and comprehension of complex relationships.

- 10 The aspect of specialization needs further comment. Actual trends of specialization, based on other epistemologies practised at present, encourages (or allows) a vertical specialization developing the exposure of knowledge towards the depths of its confined field, losing contact with other similar specializations and therefore with the totality. Knowledge is thus fractured into ever more minutely researched but disjointed bits of knowledge unrelated to each other. Most environmental problems are the result of such intense involvement with an insulated field. The necessity to acquire the level of comprehension in all fields before attempting any specialization is the first safety valve against such a development. The same concern for the totality, and consciousness of the inter-dependence of other areas of specialization with the particular field involved, should be maintained during the specialization and attainment of the level of expression.

The intention is to adhere to the epistemology outlined above in structuring the programme as well as the contents of the educational model that will be devised for the training of Mi'māris. Bearing in mind the definition given to the term Imārah in Chapter 6., it becomes significant to note that in the case of Mi'māris it becomes necessary to provide him with higher levels than just comprehension in all the fields of knowledge in order to prepare him for his mission in life.

- 11 Creation is also classified according to the following scheme. Universe is divided firstly into two groups, as latif(without a physical presence) and katif(with physical mass). The first group does not occupy any specific place upon earth such as angels, soul, jinn and satan. The Second group occupy a place and possess mass as well as volume. These are also subdivided into two groups as zihayat (living) and jamid(inanimate). Living creatures are further divided into Plants and Animals. Man belongs to the animal group within which he has a position different and distinct. This distinction is the particular obligation that he is under as mukallaf. A detailed explanation of the concept of Man would be found in chapter 4.
- 12 Every creature has been endowed with a particular ability with which it is also distinguished from others. The nightingale is distinguished by the beauty of its voice, the fox by its cunning, the elephant by its strength and stamina, and so on. All creatures possess such a distinctive ability. In case of Man all these abilities are in-built in his nature as well. He can develop distinction in singing that would surpass the sound of a nightingale, he can out-match the cunningness of forty foxes, he can become more rapacious than a hyena. To develop such abilities so that the knowledge uncovered in the conscious world are utilized is the facet of education that is concerned with abilities.
- 13 The aspect of blameworthy/useless knowledge should not be treated lightly. Prophet Muhammad himself, in one of his sayings as reported in Bukhari, seeks refuge in the Creator from such knowledge.

Al Ghazali, elaborating on this aspect, considers knowledge to be not blameworthy in itself, but because of the social role for which it is used or the ideological causes it serves. If such causes are in conflict with the doctrine and purposes defined of revealed knowledge. See A. H. M. al-Ghazali, Book of Knowledge, a translation with notes of the Kitab al-'Ilm from the author's Ihya-Ulum al-Din by N. A. Faris (Lahore: S. M. Ashraf, 1966), pp. 10-29, 50-53, 73-77.

- 14 These two aspects are also regarded as "Knowledge" and "Skill" which are normally considered as being different. Knowledge is defined by Julian Beinart, a researcher on architectural education, as a condition of knowing something and skill as the ability to use knowledge to some purpose. Beinart continues to identify the separate natures of these two entities by stating that knowing something does not necessarily mean that one can act on that knowledge; it is also possible to apply knowledge without being able to explain what the knowledge is.

See: Julian Beinart, 'Analysis of Content of Design', W. L. Porter, M. Kilbridge (Directors), Architecture Education Study (1981), Vol.1 pp. 26-27.

APPENDIX TWO

MAJOR GROUPS CLASSIFICATION SYSTEM

In this Classification System each subject is given a code consisting of four numbers. The first one indicates the major group that the subject is classified in. These are:

1000 COMMUNICATION CONCERN

2000 TECHNOLOGY CONCERN

3000 HUMANITIES CONCERN

4000 DESIGN STUDIOS

The remaining three numbers make up a key which indicates various attributes of the course as follows:

0(N)00 SUB-GROUP WITHIN THE MAJOR GROUP

Communications concern has four such sub-groups.
Technology also has four.
Humanities are allocated six.
Studios have five.

00(N)0 INDIVIDUAL COURSE WITHIN THE SUB-GROUP

000(N) SEQUENCE IF IN A SERIES WITH OTHER COURSES

- 1.000 C O M M U N I C A T I O N S C O N C E R N

- 1.100 LANGUAGES (WRITTEN AND ORAL)

 - 1.110 ARABIC
 - 1.120 ENGLISH

- 1.200 GRAPHIC COMMUNICATION

 - 1.210 BASIC DRAWING TECHNIQUES
 - 1.220 FREE HAND DRAWING
 - 1.230 PERSPECTIVE DRAWING
 - 1.240 ARCHITECTURAL GRAPHICS/PRESENTATION

- 1.300 PROFESSIONAL SKILLS AND COMMUNICATIONS

 - 1.310 COMPUTERS
 - 1.320 WORKING DRAWINGS
 - 1.330 SPECIFICATIONS AND QUANTITY SURVEYING
 - 1.340 BUILDING INDUSTRY/MANAGEMENT
 - 1.350 PROFESSIONAL PRACTICE

- 1.400 OTHERS

- 2.000 T E C H N O L O G Y C O N C E R N

- 2.100 FOUNDATION SCIENCES

 - 2.110 MATHEMATICS
 - 2.120 PHYSICS
 - 2.130 CHEMISTRY
 - 2.140 GEOPHYSICS/BIOLOGY

- 2.200 STRUCTURES/STATICS/MECHANICS

- 2.300 CONSTRUCTION

 - 2.310 CONSTRUCTION
 - 2.320 MATERIALS
 - 2.330 SITE
 - 2.340 WORKSHOP

- 2.400 BUILDING SCIENCES

 - 2.410 BUILDING SCIENCE
 - 2.420 ENVIRONMENTAL CONTROL SYSTEMS

3.000 H U M A N I T I E S C O N C E R N

3.100 HISTORY

3.200 DESIGN THEORY/METHODOLOGY

3.300 URBAN DESIGN/PLANNING CONCERNS

3.400 SOCIAL/PSYCHOLOGICAL CONCERNS

3.500 ISLAMIC SCIENCES

3.600 ECONOMY

4.000 D E S I G N S T U D I O S

4.100 BASIC DESIGN

4.200 URBAN/LANDSCAPE DESIGN

4.300 ARCHITECTURAL DESIGN

4.400 INTERDISCIPLINARY DESIGN

4.500 GRADUATION PROJECT

APPENDIX THREE

ARCHITECTURAL CURRICULUM IMPLEMENTED AT DIFFERENT SAUDI ARABIAN UNIVERSITIES IN 1982

(CLASSIFIED ACCORDING TO THE SYSTEM DEFINED IN APPENDIX ONE.)

KEY:

First Column (GRPS):

Gives the group classification number according to the system in Appendix One.

Second Column (SQN):

Gives the suggested sequential position of the courses in the semester structure as defined in the respective department's catalogue according to the following system:

100 the number of the year of the study.

010 the semester (1=fall, 2=spring, 3=summer).

001 the sequence if course is in series.

Third Column (COURSE TITLES AND SYMBOLS):

Gives the title of the courses together with the symbol and numbering it is identified with in the catalogue of the respective department.

(*) at the end of a title implies that the subject is an elective course to be chosen out of a list. In this instance the author made the selection to give as neutral a choice as possible, similar choices being attempted in all the programmes.

Fourth Column (CRH):

Gives the Credit Hour assigned to the course.

Fifth Column (CTH):

Gives the Contact hours per week assigned to the course.

APPENDIX THREE - A

KING ABDULAZIZ UNIVERSITY-JEDDAH, ARCHITECTURE PROGRAMME OF 1982
(Still Current in 1986)

GRPS	SQN	COURSE TITLES AND SYMBOLS	CRH	CTH
1111	114	ARAB 101 ARABIC LITERATURE	3	3
1121	111	ELC 101 COMMUNICATION SKILLS IN ENGLISH I	3	16
1122	121	ELC 102 COMMUNICATION SKILLS IN ENGLISH II	6	16
1211	113	SED 100 VISUAL COMMUNICATION I	3	8
1212	123	SED 101 VISUAL COMMUNICATION II	3	8
1213	623	AR 351 ARCHITECTURAL PHOTOGRAPHY (*)	2	2
1241	412	AR 401 ARCHITECTURAL GRAPHICS	3	5
1311	525	E 101 INTRODUCTION TO COMPUTERS (*)	2	3
1340	612	AR 601 THE BUILDING INDUSTRY	3	4
1341	622	AR 611 PROJECT AND CONSTRUCTION MANAGEMENT	3	4
1351	613	AR 602 PROFESSIONAL PRACTICE	3	4
2110	112	MATH 001 PRE CALCULUS MATHEMATICS	0	5
2111	122	MATH 101E CALCULUS I	4	5
2112	132	MATH 102E CALCULUS II	4	5
2121	211	PHYS 101E PHYSICS I	4	6
2122	221	PHYS 103E PHYSICS III	4	6
2141	215	SED 202 THE ENVIRONMENT I	3	4
2142	225	SED 205 THE ENVIRONMENT II	3	4
2211	413	AR 402 STRUCTURES IN ARCHITECTURE I	3	4
2212	425	AR 413 STRUCTURES IN ARCHITECTURE II	3	4
2213	515	AR 504 STRUCTURES IN ARCHITECTURE III	2	4
232e	614	AR 603 TECHNOLOGY OF CONSTRUCTION	3	4
2331	414	LA 405 SITE PLANNING	3	4
2411	423	AR 412 ENERGY IN DESIGN	3	4
2421	513	AR 502 ENVIRONMENTAL CONTROL SYSTEMS I	3	4
2422	523	AR 512 ENVIRONMENTAL CONTROL SYSTEMS II	3	4
3101	311	SED 308 WORLD HISTORY I	3	4
3102	321	SED 309 WORLD HISTORY II	3	4
3110	422	AR 411 HISTORY OF ISLAMIC ARCHITECTURE	3	4
3111	312	SED 306 HIST. OF ART AND ARCHITECTURE I	3	4
3112	322	SED 307 HIST. OF ART AND ARCHITECTURE II	3	4
3121	512	AR 501 COMPARATIVE ARCHITECTURAL THOUGHT I	3	4
3122	522	AR 511 COMPARATIVE ARCHITECTURAL THOUGHT II	3	4
3131	415	LA 413 LANDSCAPE OF MAN (*)	3	4
3141	214	SED 201 CITY PLANNING I	3	4
3142	224	SED 204 CITY PLANNING II	3	4
3143	315	SED 301 THE MIDDLE EASTERN CITY I	3	4
3144	324	SED 304 THE MIDDLE EASTERN CITY II	3	4
3301	514	URP 503 HOUSING I	3	4
3302	524	URP 513 HOUSING II	3	4

3411	316	SED	302	THE ENVIRONMENT AND MAN I	3	4
3412	325	SED	305	THE ENVIRONMENT AND MAN II	3	4
3421	424	AR	413	PSYCHOLOGY AND SOCIOLOGY IN DESIGN	3	4
3511	124	ISLS	101	ISLAMIC STUDIES I	2	2
3512	212	ISLS	201	ISLAMIC STUDIES II	2	2
3513	222	ISLS	301	ISLAMIC STUDIES III	2	2
3514	313	ISLS	401	ISLAMIC STUDIES IV	2	2
4121	213	SED	200	INTRODUCTION TO DESIGN I	3	8
4122	223	SED	203	INTRODUCTION TO DESIGN II	3	8
4231	314	SED	300	DESIGN ANALYSIS I	3	8
4232	323	SED	303	DESIGN ANALYSIS II	3	8
4341	411	AR	400	ARCHITECTURAL DESIGN STUDIO I	5	12
4342	421	AR	410	ARCHITECTURAL DESIGN STUDIO II	5	12
4353	511	AR	500	ARCHITECTURAL DESIGN STUDIO III	5	12
4354	521	AR	510	ARCHITECTURAL DESIGN STUDIO IV	5	12
4461	611	AR	600	ARCHITECTURAL DESIGN STUDIO V	5	12
4561	615	AR	606	PROJECT METHODOLOGY (REQUIRED (*))	3	4
4562	621	AR	600	ARCHITECTURAL DESIGN STUDIO VI	8	18
***	Total	***			186	330

APPENDIX THREE - B

 KING SAUD UNIVERSITY-RIYADH, ARCHITECTURAL PROGRAM OF 1982
 (Still current in 1986)

GRPS	SQN	COURSE TITLES AND SYMBOLS	CRH	CTH
-----	-----	-----	-----	-----
1111	111	ARAB 101 ARABIC LANGUAGE	2	3
1112	212	ARAB 102 ARABIC LANGUAGE	2	3
1121	112	ENG 101 ENGLISH LANGUAGE	3	4
1122	122	ENG 105 ENGLISH LANGUAGE	2	3
1123	213	ENG 201 ENGLISH LANGUAGE	2	3
1241	115	ARCH 101 ARCHITECTURAL GRAPHICS (1)	4	8
1242	125	ARCH 102 ARCHITECTURAL GRAPHICS (2)	4	8
1311	322	GE 304 COMPUTER PROGRAMMING	3	4
1321	425	ARCH 433 EXECUTION DESIGN (1)	3	6
1322	512	ARCH 434 EXECUTION DESIGN (2)	3	6
1331	513	ARCH 435 QUANTITY SURVEYING	2	2
1341	423	GE 402 PROJECT MANAGEMENT	3	4
2111	113	MATH 105 DIFFERENTIAL CALCULUS	3	5
2112	123	MATH 108 MATHEMATICS FOR ARCH. STUDENTS	3	5
2121	114	PHYS 105 GENERAL PHYSICS	3	4
2131	124	CHE 139 CHEMISTRY OF ARCH. MATERIAL	2	3
2211	214	GE 201 STATICS	3	4
2211	225	CE 269 THEORY OF STRUCTURES (ARCH.)	3	4
2212	316	CE 378 REINF. CONC. FOR ARCH. STUDENTS (1)	2	3
2213	326	CE 379 REINF. CONC. FOR ARCH. STUDENTS (2)	2	3
2214		CE 479 STEEL STRUCTURES FOR ARCH. STUDENTS	2	3
2321	216	ARCH 233 ARCHITECTURAL CONSTRUCTION (1)	3	4
2322	223	ARCH 234 ARCHITECTURAL CONSTRUCTION (2)	2	3
2323	314	ARCH 335 ARCHITECTURAL CONSTRUCTION (3)	2	3
2324	426	ARCH 336 NEW METHODS OF CONSTR. IN BUILDINGS	3	3
2330	224	CE 258 SURVEYING FOR ARCH. STUDENTS	2	3
2331	312	ARCH 324 LANDSCAPE ARCHITECTURE	2	2
2332	412	ARCH 424 PLANT MATERIAL & DESIGN (*)	3	3
2411	421	ARCH 439 SPECIAL TOPICS IN BLDNG SCIENCE (*)	3	3
2421	315	EE 309 ILLUMINATION & ACOUSTICS	2	3
2422	324	ARCH 334 SANITARY FITTINGS FOR ARC. STUDENTS	2	3
2423	414	ME 339 MECHANICAL INSTALLATIONS	2	2
3110	321	ARCH 307 HISTORY OF ISLAMIC ARCHITECTURE (*)	3	3
3111	217	ARCH 203 HISTORY OF ARCHITECTURE (1)	3	3
3112	226	ARCH 204 HISTORY OF ARCHITECTURE (2)	2	2
3121	127	ARCH 105 THEORY OF ARCHITECTURE (1)	3	3
3122	317	ARCH 306 THEORY OF ARCHITECTURE (2)	2	2
3141	221	ARCH 314 EVOLUTION OF CITIES (*)	3	3
3213	515	ARCH 407 FORMS & STRUCTURE IN ARCHITECTURE(*)	3	3

3301	325	ARCH	444	HOUSING		3	3
3311	311	ARCH	313	URBAN PLANNING (1)		3	3
3312	415	ARCH	415	URBAN PLANNING (2)		2	2
3313	523	ARCH	425	SPECIAL PROBLEMS IN LA	(*)	3	3
3321	522	ARCH	419	SPECIAL PROBLEMS IN UD & P	(*)	3	3
3411	227	ARCH	305	MAN & ENVIRONMENT		2	2
3412	327	ARCH	301	URBAN SOCIOLOGY		2	2
3511	121	IC	101	ISLAMIC CULTURE		2	2
3512	211	IC	102	ISLAMIC CULTURE		2	2
3513	411	IC	103	ISLAMIC CULTURE		2	2
3514	422	IC	104	ISLAMIC CULTURE		2	2
4111	116	ARCH	103	BASIC DESIGN (1)		3	6
4112	126	ARCH	104	BASIC DESIGN (2)		3	6
4321	215	ARCH	251	DESIGN STUDIO (1) (ARCH.)		5	10
4322	222	ARCH	252	DESIGN STUDIO 2 (ARCH.)		5	10
4333	313	ARCH	353	DESIGN STUDIO (3) (ARCH.)		5	10
4354	511	ARCH	457	DESIGN STUDIO (SELECTIVE)		5	10
4431	323	ARCH	354	DESIGN STUDIO (4) (LANDSCAPE)		5	10
4442	413	ARCH	445	DESIGN STUDIO (5) (HOUSING)		5	10
4443	424	ARCH	456	DESIGN STUDIO (6) (URBAN DESIGN)		5	10
4551	521	ARCH	400	PROJECT PROGRAMMING (1ST. STAGE)		2	7
4552	514	ARCH	400	GRADUATION PROJECT		5	10
***	Total	***				175	264

APPENDIX THREE - C

 KING FAISAL UNIVERSITY-DAMMAM, ARCHITECTURAL PROGRAMME OF 1982
 (Revised in 1986)

GRPS	SQN	COURSE TITLES AND SYMBOLS	CRH	CTH
----	---	-----	---	---
1111	211	ARAB 231 TECHNICAL ARABIC	1	2
1121	111	ENGL 101 ENGLISH LANGUAGE	6	25
1122	121	ENGL 151 ENGLISH LANGUAGE	2	6
1211	514	ARCH 564 GRAPHIC DESIGN & PRESENTATION (*)	3	3
1221	113	ARCH 101 ARCHITECTURAL DESIGN	4	4
1311	227	CMPS 301 COMPUTER I	3	4
1312	313	CMPS 351 COMPUTER II	3	4
1313	414	CMPS 352 COMPUTER III	3	4
1331	513	BLDG 551 CONSTRUCTION DOCUMENTS	3	6
1340	416	BLDG 416 BUILDING SYSTEMS AND INDUST. (*)	3	3
1341	423	BLDG 451 PROJECT MANAGEMENT	3	4
1350	127	ARCH 102 INTRODUCTION TO ARCH. & PLANNING	1	1
1351	523	BLDG 501 PROFESSIONAL PRACTICE (SPECIALIZATN)	3	3
1513		PHYSICAL FITNESS	1	0
2111	124	MATH 101 MATHEMATICS I	3	4
2112	213	MATH 201 MATHEMATICS II	3	4
2121	122	SCIE 101 PHYSICS & CHEMISTRY	3	4
2211	214	ENGG 151 STRUCTURE I	3	4
2212	223	ENGG 201 STRUCTURE II	3	4
2213	314	ENGG 251 STRUCTURE III	3	4
2214	323	ENGG 301 STRUCTURE IV	3	4
2215	424	ENGG 590 SPECIAL TOPICS IN ARCH. STRUCTURE(*)	3	3
2321	125	BLDG 151 CONSTRUCTION I	3	4
2322	215	BLDG 201 ARCH. CONSTRUCTION II	3	4
2323	224	BLDG 251 ARCH. CONSTRUCTION III	3	4
2324	315	BLDG 301 ARCH. CONSTRUCTION IV	3	4
2330	217	ENGG 252 SURVEYING	3	4
2331	324	LNDS 351 INTRO. TO L.A. AND SITE PLANNING	3	4
2421	126	BLDG 152 ENV. CONTROL & SERVICES I	3	4
2422	216	BLDG 202 ENV. CONTROL & SERVICES II	3	4
2423	225	BLDG 252 ENV. CONTROL & SERVICES III	3	4
2424	316	BLDG 302 ENV. CONTROL & SERVICES IV	3	4
3111	226	ARCH 202 HISTORY & THEORY OF ARCHITECTURE I	3	3
3112	311	ARCH 302 HISTORY & THEORY OF ARCHITECTURE II	3	3
3113	321	ARCH 352 HISTORY & THEORY OF ARCH. III	3	3
3114	411	ARCH 402 HISTORY & THEORY OF ARCH. IV	3	3
3123	421	ARCH 452 HISTORY & THEORY V	3	3
3124	521	ARCH 502 CONTEMPORARY ISSUES OF DESIGN	3	3
3131	426	PLNG 401 HIS. OF URBAN ENVIR. & PLANNING (*)	3	3
3211	415	ARCH 591 SPECIAL TOPICS IN ARCH. DESIGN (*)	3	3

3212	326	INTD	351	INTRO. TO INTERIOR DESIGN	3	4
3311	325	PLNG	351	INTRO. TO URBAN PLANNING	3	3
3312	515	PLNG	402	URBAN IMAGE & TOWNSCAPE (*)	3	3
3313	425	LNDS	591	LANDSCAPE DESIGN SPECIAL TOPICS (*)	3	3
3511	112	ISCL	101	ISLAMIC CULTURE	2	2
3512	221	ISCL	202	ISLAMIC CULTURE	2	2
3513	327	ISCL	303	ISLAMIC CULTURE	2	2
3514	417	ISCL	404	ISLAMIC CULTURE	2	2
3611	113	BLDG	401	DESIGN ECONOMICS	3	4
4111	123	ARCH	151	ARCH. DESIGN II	4	10
4321	212	ARCH	201	ARCH. DESIGN III	5	15
4322	222	ARCH	251	ARCH. DESIGN IV	5	15
4333	312	ARCH	301	DESIGN V	5	15
4334	322	ARCH	351	ARCH. DESIGN VI	5	15
4345	412	ARCH	401	DESIGN VII (SPECIALIZATION)	5	15
4346	422	ARCH	451	DESIGN VIII (SPECIALIZATION)	5	15
4347	512	ARCH	501	ARCH. DESIGN IX (SPECIALIZATION)	5	15
4551	511	ARCH	552	THESIS (SPECIALIZATION)	3	4
4552	522	ARCH	551	DESIGN (THESIS) X (SPECIALIZATION)	7	21
***	Total	***			189	329

APPENDIX THREE - D

 UNIVERSITY OF PETROLEUM AND MINERALS-DHAHRAN, 1982 ARCHIECTURAL
 PROGRAMME (Still current in 1987)

GRPS	SQN	COURSE TITLES AND SYMBOLS		CRH	CTH
----	----	-----	-----	-----	-----
1111	326	IAS	200 INTRO TO ARABIC ESSAY ETC.	2	2
1112	426	IAS	300 ARABIC TERMINOLOGY	2	2
1113	516	IAS	400 ARABIC SYNTAX	2	2
1121	111	ENGL	001 PREPATORY ENGLISH I	7	20
1122	121	ENGL	002 PREPATORY ENGLISH II	7	20
1123	213	ENGL	101 ENGLISH COMPOSITION I	3	3
1124	223	ENGL	102 ENGLISH COMPOSITION II	3	3
1125	415	ENGL	214 TECHNICAL REPORT WRITING	3	3
1211	211	ED	100 DRAWING & GRAPHIC COMM.	4	10
1212	221	ED	101 ENVIRONMENTAL DESIGN STUDIO I	4	10
1311	314	CS	101 COMPUTER PROGRAMMING	2	4
1312	514	ED	421 COMPUTER GRAPHICS	2	4
1331	513	ARE	414 CONTRACT & COST ANALYSIS	2	2
1351	331	ARC	203 INTRO/PROFESSIONAL PRACTICE	5	13
1352	525	ED	422 SAUDI BLDG LAW/ZONING REG.	2	2
1511	114	PE	001 PREP PHYSICAL EDUC. I	1	3
1512	124	PE	002 PREP. PHYSICAL EDUC. II	1	3
1513	215	PE	101 PHYSICAL EDUCATION I	1	2
1514	226	PE	102 PHYSICAL EDUCATION II	1	2
1515	316	PE	201 PHYSICAL EDUCATION III	1	2
1516	327	PE	202 PHYSICAL EDUCATION IV	1	2
2101	115	SE	001 COMPUTATIONS IN /SCI. & ENGG. I	2	3
2101	125	SE	002 COMPUTATIONS IN /SCI. & ENGG. II	2	3
2103	112	MATH	001 PREPATORY MATH I	3	3
2104	122	MATH	002 PREPATORY MATH II	3	3
2111	214	MATH	101 CALCULUS I	3	3
2112	225	MATH	102 CALCULUS II	3	3
2121	216	PHYS	101 GENERAL PHYSICS I	4	6
2122	227	PHYS	102 GENERAL PHYSICS II	4	6
2141	315	GEOL	201 PHYSICAL GEOLOGY	4	6
2210	324	CE	201 STATICS	3	3
2211	313	ARC	221 STRUCTURE & ARCH. I	3	3
2212	323	ARC	222 STRUCTURE & ARCH. II	3	5
2213	422	ARC	323 STRUCTURE & ARCH III	3	3
2311	423	ARE	211 BLDG. MATLS & CONSTR. METHODS	3	3
2330	325	CE	207 SURVEYING I	3	5
2341	112	ME	001 PREPATORY SHOP I	1	2
2342	123	ME	002 PREPATORY SHOP II	1	2
2421	412	ARE	321 ACOUSTIC & ILLUMINATION	3	5
2423	424	ARE	322 MECHANICAL SYSTEMS	3	5

3111	212	ED	110	INTRO/ENVIRNMTL DESIGN	2	2
3112	222	ED	111	HISTORY OF ENVIRONMENTAL DESIGN	2	2
3113	231	ARC	111	HISTORY/ARCHITECTURE	2	2
3121	312	ARC	212	HISTORY OF ARCH. THEORY	3	3
3122	322	ARC	213	DESIGN THEORY	2	2
3123	522	ARC	414	ADVANCED ARCHITECTURAL THEORY	2	2
3210	523	ARC	442	PERCEPTION GEOMETRY (*)	2	2
3301	512	ARC	441	HOUSING (*)	2	2
3311	414	ED	313	DESIGN IN ARID REGIONS	2	2
3321	524	CP	455	PLANNING THEORY	2	2
3322	415	ED	312	URBAN DESIGN THEORY	2	2
3411	515	ED	432	SOCIO-CULTURAL FACTORS/DESIGN	3	3
3511	224	IAS	111	ISLAMIC IDEOLOGY	2	2
3512	332	IAS	222	THE QUR'AN AND SUNNAH	2	2
3513	416	IAS	333	THE ISLAMIC SYSTEM	2	2
3514	526	IAS	466	MUSLIM WORLD TODAY (*)	2	2
3611	425	ED	331	URBAN ECONOMICS	3	3
4121	232	ED	102	ENVIRONMENTAL DESIGN STUDIO II	5	13
4331	311	ARC	201	DESIGN STUDIO I	5	13
4332	321	ARC	202	DESIGN STUDIO II	5	13
4343	411	ARC	304	DESIGN STUDIO III	5	13
4344	421	ARC	305	DESIGN STUDIO IV	5	13
4551	511	ARC	406	SENIOR THESIS I	6	16
4552	521	ARC	407	SENIOR THESIS II	6	16
TOTAL					184	318

APPENDIX FOUR

SELECTED COURSE ABSTRACTS OF GROUPS OF SUBJECTS AS TAUGHT AT SAUDI ARABIAN UNIVERSITIES:

Abstracts are assembled under four groups. The letter of the Appendix signifies the group and the number signifies the university as follows:

A- ISLAMIC STUDIES:

1. KING ABDULAZIZ UNIVERSITY
2. KING SAUD UNIVERSITY
3. KING FAISAL UNIVERSITY
4. UNIVERSITY OF PETROLEUM AND MINERALS

B- PSYCHOLOGY/SOCIOLOGY RELATED COURSES:

1. KING ABDULAZIZ UNIVERSITY
2. KING SAUD UNIVERSITY
3. KING FAISAL UNIVERSITY
4. UNIVERSITY OF PETROLEUM AND MINERALS

C- HISTORY RELATED COURSES:

1. KING ABDULAZIZ UNIVERSITY
2. KING SAUD UNIVERSITY
3. KING FAISAL UNIVERSITY
4. UNIVERSITY OF PETROLEUM AND MINERALS

D- DESIGN STUDIO COURSES:

1. KING ABDULAZIZ UNIVERSITY
2. KING SAUD UNIVERSITY
3. KING FAISAL UNIVERSITY
4. UNIVERSITY OF PETROLEUM AND MINERALS

Note: Each Abstract has been given in its title a number identifying its place in the "MAJOR GROUPS" system of classification as explained in Appendix Two. This is followed by a symbol signifying the university with its acronym and the number 82 signifying the year 1982 when the abstracts were collected. Any further changes can be accordingly inserted to identify the currency of the abstracts.

(CH) stands for Contact Hours and (CR) for Credit Hours.

GRPS COURSE ABSTRACTS

3511 (KAU82) ISLS 101 ISLAMIC STUDIES I

CR 2, CH 2,

Islamic studies, to be taught at four levels, has as its main objective the development of an Islamic personality which is sincere and balanced in terms of thought and behaviour.

General introduction to definitions, comparison between Islamic culture and science, culture and civilization, through a study of:

(a) °AQĪDAH, its importance and sources; islamic point of view regarding the universe and life; Islamic methodology in developing IMAN (belief) through intuitive straightforward examples; explanation of the basis of in ALLAH, His messengers, the last day and QADAR.

(b) °IBĀDAH(worship), its concept, importance, and characteristics.

(c) AHLAQ(ethics), its concept, importance of religious ethical attitude.

(d) To memorize the SURAH "AL WĀQEHA" (no. 56) and study its general interpretation and meaning.

3512 (KAU82) ISLS 201 ISLAMIC STUDIES II

CR 2, CH 2,

Objective of this course is to explain aspects of Islamic legislation, its objectives and sources:

1-Qur'an, 2-Sunnah, 3-Ijmah, 4- Qiyas(analogy).

For each of above definitions and explanations will be given. Students will be asked to memorize Surah Al Fath (no. 48)as well as studying its meaning and interpretation in addition to memorizing five hadith.

3513 (KAU82) ISLS 301 ISLAMIC STUDIES III

CR 2, CH 2,

Introduction to Islam as a comprehensive system for all human life; miraculous nature of Qur'an regarding scientific and legislative aspects; detail study of family system; economic system; political system; legislative system pertaining to limits and punishment. To memorize Surah TALAQ (no 65)

3514 (KAU82) ISLS 401 ISLAMIC STUDIES IV
CR 2, CH 2,

First part of the course will deal with the Ideal image of Muslim Society at the early period of Islamic History. Second part will deal with the present situation of the Islamic World, its problems, ways and means for its reformation. Reasons for its weaknesses, effects on the world community.

Brief study of some of the revivalist/reformation movements in the contemporary Islamic world.

APPENDIX FOUR A.2

ISLAMIC STUDIES TEXTS, KING SAUD UNIVERSITY

GRPS COURSE ABSTRACTS

3511 (KSU82) IC 101 ISLAMIC CULTURE
CR 2, CH 2,

"Introduction to Islamic Culture"

Course deals with the study of the general principles of Islam, its universality and comprehensiveness, and being in harmony with man's nature; The course will show how our Nation have prospered in those ages; The course will indicate challenges and obstacles that have faced the Ummah.

3512 (KSU82) IC 102 ISLAMIC CULTURE
CR2, CH2,

"Islam and Building of the Society"

Islam's response to man's inner nature and realization of its aspiration in the individual as well as in the group; The course emphasizes the role of ethical and social developments in the life of individuals as well as the groups; The course discusses extensively the basis of Muslim family and especially the role of the women in building family and the society; The course shows in all these, the wisdom of Islam in dealing with marriage, education of the young and all that which preserves the structure and stability of the family, comparing it with other systems of belief.

3513 (KSU82) IC 103 ISLAMIC CULTURE
CR2, CH2,

"Economical System in Islam"

The course deals with the attitude of Islam in relation to ownership, economic freedom and social security, comparing these with other systems; The course deals with the attitude of Islam towards production and capital. It points out the main Islamic principles that control circulation of goods through rules and regulations dealing with muamalat

(conduct) giving special attention to those that concern halal (allowed), and haram (unlawful) according to ethics of conduct.

3514 (KSUB2) IC 104 ISLAMIC CULTURE
CR 2, CH 2,

"The Basis of Political System in Islam"

The course deals with the basis of the political system in Islam. However it is not concerned with detailed historical chronological past and concentrates on identifying the constitutional basis and its practical application. It deals also with advantages of Islamic system. It studies the political authority and its implementation in an Islamic State. It promotes the necessity of going back to Islamic system in the contemporary societies.

APPENDIX FOUR - A.3

ISLAMIC STUDIES TEXTS, KING FAISAL UNIVERSITY-DAMMAM

GRPS COURSE ABSTRACTS

3511 (KFUB2) ISCL 101 ISLAMIC CULTURE
CR 2, CH 2,

Definition of Islamic culture with concentration on Islamic history, Arabic cultural history pre-Islamic & Islamic, the spread of Islam and new Islamic developments.

3512 (KFUB2) ISCL 202 ISLAMIC CULTURE
CR 2, CH 2,

Creed, ethics and jurisdiction. Faith and man, characteristics of faith, Islamic morality principles and Islamic jurisdiction.

3513 (KFUB2) ISCL 303 ISLAMIC CULTURE
CR 2, CH 2,

The present Islamic world, Islamic culture and values. The opposition of Islam to any attempts at the destruction of values.

3514 (KFUB2) ISCL 404 ISLAMIC CULTURE
CR 2, CH 2,

Comparative studies of Islam and other faiths. A study of Shari'a (jurisprudence) in comparison with other legal systems. A study of the Qur'anic concept of knowledge.

ISLAMIC STUDIES TEXTS, UNIVERSITY OF PETROLEUM AND MINERALS

GRPS COURSE ABSTRACTS

3511 (UPM82) IAS 111 ISLAMIC IDEOLOGY
CR 2, CH 2,

A course to vitalize the students' knowledge of and commitment to Islamic doctrines, seeking thereby to fortify them against the onslaught of godless ideologies. Topics include the following: An introduction to faith, its foundations and sources; the fundamentals of belief; divinity, prophethood, and after-life; the treatment of different subjects in the Qur'an which deal with the universe, man, and life; and a consideration of the position of the contemporary Muslim vis-a-vis the different false doctrines and the need of his adherence to Islam and renunciation of all false ideologies.

3512 (UPM82) IAS 222 THE QUR'AN AND SUNNAH
CR 2, CH 2,

A course to acquaint students with the Qur'an and Sunnah as the two main sources of true doctrines and of the guidelines for a Muslim's conduct. The study shall consist of the following: An introduction to the Qur'an's significance, its revelation, and characteristics of the Meccan and Medinan verses of the Qur'an with illustrations showing the distinctiveness of the revelations of the two periods. The miraculous nature of the Qur'an. An introduction to the various qira'at readings of the Qur'an. The recording, collection and preservation of the Qur'an. The chronological sequence of the verses of the Qur'an revealed (the first and the last verses that were revealed). The reasons for the absolute authenticity of the Qur'anic text in contradistinction to earlier scriptures. The Sunnah, its all-encompassing range. Hadith and Sunnah. Classification of Hadith into prophetic and qudsi (divine), and the difference between the two with examples. The different systems of transmitting the Hadith: the methods of the verification, the best known transmitters, the most famous and authentic collections (Bukhari, Muslim, Tirmidhi, etc.).

3513 (UPM82) IAS 333 THE ISLAMIC SYSTEM
CR 2, CH 2,

A course consisting of the following:

(1)- Study of the Islamic family system; the role of the male and female in establishing the family and raising sound and healthy generations; the interrelationship between individuals; the viewpoint of Islam on slavery.

(2)- Study of the economic system of the Islamic society, enunciating the God-given principles of takaful (mutual responsibility) and ta'āwun (co-operation) and the prohibitions (such as riba [interest]) as the directives relating to worldly transactions.

(3)- Study of the political aspect of the Islamic system in

administering the society on the basis of shura, and the different forms in which shura may be practised, with explanations of the differences between each of them, and between the Islamic system as such and the other systems followed in the world.

3514 (UPM82) IAS 466 THE MUSLIM WORLD TODAY
CR 2, CH 2,

A study of conditions of Muslims all over the world and the internal and external factors responsible for this condition; the standpoint of contemporary Muslims towards technological development; the possibility of a new Islamic regeneration based on the teachings of the Qur'an and Sunnah; the problem of intellectual strife within contemporary Islamic societies such as the conflict between the proponents of Capitalism and Marxism; a critique of the contemporary systems opposed to Islam; a survey of the phenomenon of the Revival of Islamic society as manifested in the Salafiyah Movement and other movements which arose in its wake throughout the Islamic world.
Prerequisite: Junior or senior standing.

APPENDIX FOUR - B.1

PSYCHO/SOCIOLOGY RELATED ABSTRACTS, KING ABDULAZIZ UNIVERSITY

GRPS COURSE ABSTRACTS

3411 (KAU82) SED 302 THE ENVIRONMENT AND MAN I
CR 3, CH 4,

The complex interactions of man with the environment. Social and cultural influences will be examined as they relate to the Physical environment, and specific Middle Eastern cases will be studied.

3412 (KAU82) SED 305 THE ENVIRONMENT AND MAN II
CR 3, CH 4,

The complex interactions of man with the environment. Social and cultural influences will be examined as they relate to the Physical environment, and specific Middle Eastern cases will be studied.

3421 (KAU82) AR 413 PSYCHOLOGY AND SOCIOLOGY IN DESIGN
CR 3, CH 4,

The course introduces students to concepts of privacy, personal space, territoriality and crowding; also examining the usefulness of social and behavioral sciences to architectural design in terms of establishing broad guidelines for designers.

APPENDIX FOUR - B.2

PSYCHO/SOCIOLOGY RELATED ABSTRACTS, KING SAUD UNIVERSITY

GRPS COURSE ABSTRACTS

3411 (KSUB2) ARCH 305 MAN & ENVIRONMENT
2CR, 2CH,

Notions on ecology, geophysical and biological systems of the Natural Environment, Human settlement, the shaping of Man's Natural Environment - Form and Structure of urban areas, the impact of land-use on the Environment with emphasis on the problem of pollution. - Human heritage, the effect of technology in changing the future - The effective society, the future role of the Individual and the Group, - The collaboration among various disciplines.

3412 (KSUB2) ARCH 301 URBAN SOCIOLOGY
2CR, 2CH,

Social Evolution: Culture; Social Evolution; Stationary and

Changing Societies. Social Trends: Social Trends; Technology and the Standard of Living. Why the Family is changing? Man and His Urban Environment: Life style, State in the life cycle, Social class, Values pathology. Spatial Organization and Social Interaction: Silent assumptions in Social Communication; The social psychology of privacy; Social aspects of housing.

APPENDIX FOUR - B.3

PSYCHO/SOCIOLOGY RELATED ABSTRACTS, KING FAISAL UNIVERSITY

GRPS COURSE ABSTRACTS

34?? None

APPENDIX FOUR - B.4

PSYCHO/SOCIOLOGY RELATED ABSTRACTS, UNIVERSITY OF PETROLEUM AND MINERALS-DHAHRAN

GRPS COURSE ABSTRACTS

3411 (UPM82) ED 432 SOCIO-CULTURAL FACTORS IN DESIGN
CR 3, CH 3,

A study of the variety of physical, social, and cultural forces that affects the way man shape and are, in turn, shaped by the environment in which they live. The structure of social relationships in a community and the changing patterns of urban life. Selected social planning issues and analytical techniques.

APPENDIX FOUR - C.1

HISTORY RELATED ABSTRACTS, KING ABDULAZIZ UNIVERSITY-JEDDAH

GRPS COURSE ABSTRACTS

- 3101 (KAU82) SED 308 WORLD HISTORY I
CR 3, CH 4,
Beginnings; first civilizations; the early Iron Age; the growth of civilization; empires in the East and West; the Barbarian invasions; The early Middle Ages; The high Middle Ages-an era of transition; the Age of Absolutism; Revolutionary Europe; Europe and the world; the Twentieth Century world.
- 3102 (KAU82) SED 309 WORLD HISTORY II
CR 3, CH 4,
World civilization and Arabia immediately before Islam; The advent of Islam; Spread of Islam; Islamic civilization; Contacts with the non-Muslim World; Contributions of Islam to civilization; Rise of Western Colonialism; The Industrial Revolution and the contemporary West; Rise of Islamic fundamentalism.
- 3110 (KAU82) AR 411 HISTORY OF ISLAMIC ARCHITECTURE
CR 3, CH 4,
A complete survey and detailed analysis of Islamic architecture through history. The cultural, social and philosophical aspects of the different periods are stressed.
- 3111 (KAU82) SED 306 HISTORY OF ART AND ARCHITECTURE I
CR 3, CH 4,
An introductory course to the history of world art and architecture. (From ancient periods up to pre-industrial revolution).
- 3112 (KAU82) SED 307 HISTORY OF ART AND ARCHITECTURE II
CR 3, CH 4,
An introductory course to the history of world art and architecture. (From Industrial Revolution to present).
- 3121 (KAU82) AR 501 COMPARATIVE ARCH. THOUGHT I
CR 3, CH 4,
Contemporary theories of architecture as practised in the First, Second and Third World countries, are explored and compared. (Up to Industrial Revolution).
- 3122 (KAU82) AR 511 COMPARATIVE ARCH. THOUGHT II
CR 3, CH 4,
Contemporary theories of architecture as practised in the

First, Second and Third World countries, are explored and compared. (Since Industrial Revolution).

3131 (KAU82) LA 413 LANDSCAPE OF MAN (*)

CR 3, CH 4,

- History of man's impact on the landscape from early times to the present day. Historical landscape design styles with particular focus on the Islamic tradition.

3141 (KAU82) SED 201 CITY PLANNING I

CR 3, CH 4,

An introductory course for urban studies. An historical and international perspective on the development of the city, including city planning.

3142 (KAU82) SED 204 CITY PLANNING

CR 3, CH 4,

An introductory course for urban studies. An historical and international perspective on the development of the city, including city planning.

3143 (KAU82) SED 301 THE MIDDLE EASTERN CITY I

CR 3, CH 4,

The cultural and historical background to the development of Middle Eastern cities with two specific objectives: (a) to examine the factors which in the past have influenced the growth of cities, and (b) to analyse the development of some of the major Islamic cities.

3144 (KAU82) SED 304 THE MIDDLE EASTERN CITY II

CR 3, CH 4,

The analysis of urbanization trends and patterns, and an assessment of recent growth in Middle Eastern Cities, within an examination of critical issues facing them.

APPENDIX FOUR - C.2

HISTORY RELATED ABSTRACTS, KING SAUD UNIVERSITY-RIYADH

GRPS COURSE ABSTRACTS

3110 (KSU82) ARCH 307 HISTORY OF ISLAMIC ARCHITECTURE (Elective)

CR3, CH3,

A survey of Islamic monuments built at different periods starting with the earlier works during the Amawis and Abbasids, and covering the chronological development upto the classical period in the 17th. century A.D.

- 3111 (KSUB2) ARCH 203 HISTORY OF ARCHITECTURE 1
3CR, 3CH,
Environmental influences and factors on the birth, development, maturity and decline of the historical styles of architecture.
A: Antique Periods: Pharaonic, Assyrian, and Achomenean.
B: Classic periods: Greek, Roman, Hellenistic, Iraq (Parthian & Sassanian) and Byzantine.
C: Medieval Periods: Romanesque & Gothic.
- 3112 (KSUB2) ARCH 204 HISTORY OF ARCHITECTURE 2
2CR, 2CH,
Environmental influences and factors on the birth, development, maturity and decline of Islamic Architecture: The general character and main elements of Islamic Architecture, especially in the Arab Peninsula and East and West Islam in the following period:
A. Early Period (1-4 Cent. H./A.D. 7-10)
B. Middle Period (5-9 Cent. H./A.D. 11-15)
C. Late Period (10-13 Cent. H./A.D. 16-19)
- 3121 (KSUB2) ARCH 105 THEORY OF ARCHITECTURE 1
3CR, 3CH,
Aesthetical laws in Architecture: (Unity, balance, contrast, Rhythm, expression, negative and positive elements), Proportion analysis, the Golden Section, the Modulor, the grid and architectural modulation in design, Form and texture in Architecture, space in Architecture, reflection of climatic factors Design methods, Creativity stimulators in design: (Brain Storming, Synectics, Cybernetics).
- 3122 (KSUB2) ARCH 306 THEORY OF ARCHITECTURE 2
2CR, 2CH,
A. "The Organic Theory", Frank Lloyd Wright: Architecture & Space.
B. "The Functional Geometrical Theory", Le Corbusier: Architecture & Form.
C. "The Scientific Rational Theory", Walter Gropius and the Bauhaus: Art & Technology.
D. "The Structural Theory", Mies-Van-Der-Roh: Architecture & Structure.
E. New Philosophical trends in Architecture, with emphasis on it's integration with local architecture.
- 3141 (KSUB2) ARCH 314 EVOLUTION OF CITIES (Elective)
CR3, CH3,

(is not available)

GRPS COURSE ABSTRACTS

3111 (KFU82) ARCH 202 HISTORY & THEORY OF ARCH. I
CR 3, CH 3,

The architecture of the Indian subcontinent, South-East Asia, China, Japan, Meso-America, Mesopotamia, Egypt, Greece and Rome. Attempt to extract correlations in the solutions to problems given certain determinants. Comparisons made with modern architecture illustrating ideas in architectural theory.

3112 (KFU82) ARCH 302 HISTORY & THEORY OF ARCH. II
CR 3, CH 3,

Byzantine, Romanesque, Gothic, Renaissance, Baroque. The employment of different architectural systems, particularly structural forms, to achieve different psychological effects and interior spaces. The last part of the course introduces theories in architecture basic to the Western tradition.

3113 (KFU82) ARCH 352 HIST. & THEORY OF ARCH. III
CR 3, CH 3,

Islam: its philosophic, aesthetic, cultural aspects and corresponding theories of architecture; genesis of Islamic buildings and settlements as manifestations of a comprehensive and cohesive life style; comparative survey of buildings and cities of Islamic Arabia, Syria, Iraq, Palestine, Egypt, North Africa and Spain.

3114 (KFU82) ARCH 402 HIST. & THEORY OF ARCH. IV
CR 3, CH 3,

Continuation of ARCH 352 to cover Islamic Eastern Europe, Turkey, Central Asia, Iran, Afghanistan, Indo-Pakistan, and the Far East; problems of modern Islamic style versus the genuine essence of Islamic architecture and cities.

3123 (KFU82) ARCH 452 HISTORY AND THEORY V
CR 3, CH 3,

Roots of modern movements; architecture of technological-industrial epoch, major theoretical and aesthetic positions leading to contemporary world architecture and urbanism; international style and other developments, architectural masters and image makers of the 19th and 20th centuries; modernity as an image and aesthetic value and its relevance to Saudi Arabia.

3124 (KFU82) ARCH 502 CONTEMP. ISSUES OF ENV. DESIGN

CR 3, CH 3,

The intention of this course is to make students aware of the latest developments in contemporary architecture. Areas investigated are Post Modernism, historical reference and its inclusion and relevance in the modern idiom, high technology buildings, the post-Corbusier school, the architecture of the highway, exhibitions and fantasy, and super graphics. Discussion will centre on crucial issues in modern architecture and their relevance to the Saudi environment.

3131 (KFU82) PLNG 401 HIS. OF URBAN ENV. AND PLANNING

CR 3, CH 3,

Early civilizations in the Middle East; cities in Europe and the Mediterranean; super cities and their problems; modern urbanization trends and attempts to deal with population expansion; city design in the Arab world; city design in Saudi Arabia.

APPENDIX FOUR - C.4

HISTORY RELATED ABSTRACTS, UNIVERSITY OF PETROLEUM AND MINERALS

GRPS COURSE ABSTRACTS

3111 (UPM82) ED 110 INTRO. TO ENVIRONMENTAL DESIGN

2CR, 2CH,

Introduction to Environmental Design using local existing examples; historical review and analysis of the interactions of the environmental design professions; identification of planning and design issues, past, present and future.

3112 (UPM82) ED 111 HISTORY OF ENVIRONMENTAL DESIGN

2CR, 2CH,

Introduction to the history of the built environment through examination of man-made landscape, buildings, and cities; introduction to the analysis and theory of architecture, landscape architecture and urban planning.

3113 (UPM82) ARC 111 HISTORY OF ARCHITECTURE

2CR, 2CH,

Perspective of architecture from prehistoric times to the industrial revolution. Introduction to Islamic architecture in the context of world architecture. Field trips in Saudi Arabia and the Gulf States.

3121 (UPM82) ARC 212 HISTORY OF ARCHITECTURE
3CR, 3CH,

A study of the evolution of architectural theories from Vitruvius to the present day with special emphasis on the work of the leading architects and theorists and the impact of these theories upon architectural solutions. An examination of Islamic architecture as seen in the context of the modern movement.

3122 (UPM82) ARC 213 DESIGN THEORY
CR 2, CH 2,

Comparison and discussion of the theories of environmental design. Developing and testing of various methods, tools, and techniques available to designers.

3123 (UPM82) ARC 414 ADVANCED ARCHITECTURE THEORY
CR 2, CH 2,

Theoretical foundation of design methods. Critical analysis of theories and design in the development of modern architecture in selected projects.

APPENDIX FOUR - D.1

DESIGN STUDIOS ABSTRACTS, KING ABDULAZIZ UNIVERSITY

GRPS COURSE ABSTRACTS

4121 (KAU82) SED 200 INTRODUCTION TO DESIGN I
CR 3, CH 8,

4122 (KAU82) SED 203 INTRODUCTION TO DESIGN II
CR 3, CH 8,

An introduction to the basic concepts of the enclosure of space for human use (architecture), land organization as man's relation to natural systems (landscape architecture), and Urban Planning fundamentals.

4231 (KAU82) SED 300 DESIGN ANALYSIS I
CR 3, CH 8,

An interdisciplinary course, mainly consisting of studio work with occasional supplementary lectures, introducing the nature and role of the environmental factors behind the elements of the built environment in particular.

4232 (KAU82) SED 303 DESIGN ANALYSIS II
CR 3, CH 8,

The analytical work of SED 300 is followed by design activities to introduce students to the concerns, roles and respon-

sibilities of the environmental design disciplines and to give insight into their inter-dependence and necessary co-operation, for the production of quality environments.

4233 (KAU82) AR 400 ARCHITECTURAL DESIGN STUDIO I
CR 5, CH 12,

4342 (KAU82) AR 410 ARCHITECTURAL DESIGN STUDIO II
CR 5, CH 12,

4353 (KAU82) AR 500 ARCHITECTURAL DESIGN STUDIO III
CR 5, CH 12,

4354 (KAU82) AR 510 ARCHITECTURAL DESIGN STUDIO IV
CR 5, CH 12,

Building and planning projects of a large scope of subjects executed by individual and teams of students. Design as a process, and the comprehensive approach to architectural problems are emphasized.

4461 (KAU82) AR 600 ARCHITECTURAL DESIGN STUDIO V
CR 5, CH 12,

A special studio combining students of the three SED departments, to work individually and/or to execute projects of an interdisciplinary nature. Other specialists like structural and mechanical engineers will be invited to the studio.

4561 (KAU82) AR 606 PROJECT METHODOLOGY
CR 3, CH 4,

Preparatory course for the final graduating project. Review of basic principles in design process, data collection and analysis, and over view of various design methods in relation to the topic which students are assisted to select for their graduation project and for which they are to devise a programme as a final requirement of this course.

4562 (KAU82) AR 600 ARCHITECTURAL DESIGN STUDIO VI
CR 8, CH 18,

Students have to demonstrate their comprehension of the design process and how it is applied in large and complex design problems. The scope covers: research, program writing, conceptual design, schematic design and detailing. It also covers structural and mechanical systems.

DESIGN STUDIOS ABSTRACTS, KING SAUD UNIVERSITY

GRPS COURSE ABSTRACTS

- 4111 (KSU82) ARCH 103 BASIC DESIGN I
CR 3, CH 6,
Basic elements of visual studies oriented for architects (e.g. points, lines, planes, colours and textures), with emphasis on two-dimensional composition.
- 4112 (KSU82) ARCH 104 BASIC DESIGN 2
3CR, 6CH,
Visual studies oriented for architects (e.g., planes, spaces, masses, and forms) with emphasis on three-dimensional compositions using models.
- 4321 (KSU82) ARCH 251 DESIGN STUDIO 1 (ARCH.)
5CR, 10CH,
Design of simple projects related to domestic architecture such as private houses, beach or country houses, with stress on: Design methods, Communication drawings, and local environmental conditions.
- 4322 (KSU82) ARCH 252 DESIGN STUDIO 2
5CR, 10CH,
Design of simple projects related to the service facilities of a residential community class I such as kindergartens, a small library, a police or fire station, a clinic, or a small mosque, with stress on; design methods, communicating drawings, and local environmental conditions.
- 4323 (KSU82) ARCH 353 DESIGN STUDIO 3 (ARCH.)
5CR, 10CH,
Design of medium scale or compound projects related to the service facilities of a residential community class II or class III, including commercial, administrative, health or institutional facilities. Emphasis will be on the study of form, space and big span structures.
- 4354 (KSU82) ARCH 457 DESIGN STUDIO
5CR, 10CH,
Comprehensive studies for a selective design problem oriented towards one of the four following fields: Architectural design, Urban Design and Planning, Landscape Architecture, or Building Technology.

4431 (KSU82) ARCH 354 DESIGN STUDIO 4 (LA. ARCH)

5CR, 10CH,

Design of compound projects related to the outdoor and recreational activities with stress on landscape design.

4442 (KSU82) ARCH 445 DESIGN STUDIO (5) HOUSING

CR5, CH10,

Design of a comprehensive housing project, including the design of residential units and related community facilities. Emphasis will be on local environmental conditions.

4443 (KSU82) ARCH 456 DESIGN STUDIO (6)

5CR, 10CH,

A comprehensive design for a local urban problem.

4551 (KSU82) ARCH 400 PROJECT PROGRAMMING 1ST STAGE

CR2, CH7,

The student is required to prepare and submit his final graduation project for a selective design problem oriented towards one of the four following fields: Architectural Design, Urban Planning, Landscape Architecture, or Building Technology. The project should be prepared on two stages, during the 9th and 10th semesters. The first stage will be devoted to research, analysis and briefing. The second stage will include project design and submission of final drawings. Of the total 7 credit-hours, 2 credit-hours will be appropriated to the first stage, and 5 credit-hours to the second stage. The first stage should be approved by the supervisor before starting the second stage.

4552 (KSU82) ARCH 400 GRADUATION PROJECT

5CR, 10CH,

The student is required to prepare and submit his final graduation project for a selective design problem oriented towards one of the following fields: Architectural Design, Urban Planning, Landscape Architecture, or Building Technology. The project should be prepared in two stages, during the 9th and 10th semesters. The first stage will be devoted to research, analysis and briefing. The second stage will include project design and submission of final drawings. Of the total of 7 credit hours, 2 credit-hours will be appropriated to the first stage, and 5 credit-hours to the second stage. The first stage should be approved by the supervisor before starting the second stage.

DESIGN STUDIOS ABSTRACTS, KING FAISAL UNIVERSITY

GRPS COURSE ABSTRACTS

4111 (KFU82) ARCH 151 ARCHITECTURAL DESIGN II

CR 4, CH 10,

Part 1: Geometry of graphic and visual communications, introduction to basic design concepts through planar and spatial exercises; workshop experience. Part 2: Introduction to rationalized design process through design of single function objects and simple systems.

4321 (KFU82) ARCH 201 ARCHITECTURAL DESIGN III

CR 5, CH 15,

Part 1: Design of single function, low complexity buildings. Primary focus: architecture as purposeful space. Secondary focus: architecture as composition of lines, surfaces, spaces and forms. Part 2: Further exercises in drawing, painting, sculpting and photography.

4322 (KFU82) ARCH 251 ARCHITECTURAL DESIGN IV

CR 5, CH 15,

Part 1: Design for basic and simple living function. Primary focus: Architecture as a context or an expression of a life style. Secondary focus: interior design. Part 2: Further exercise in rationalized design process.

4333 (KFU82) ARCH 301 ARCHITECTURAL DESIGN V

CR 5, CH 15,

Design problem with primary focus on architecture as an expression of religious, cultural, institutional or organizational functions; secondary focus on site, physical environment and climate; integration of conflicting emphases in architecture.

4334 (KFU82) ARCH 351 ARCHITECTURAL DESIGN VI

CR 5, CH 15,

Design problem with primary focus as an expression of a commercial function or an involved process; secondary focus on materials, structure, environmental controls, flexibility and further changeability of building use.

4345 (KFU82) ARCH 401 ARCHITECTURAL DESIGN VII

CR 5, CH 15,

Architecture as an integrated expression of formative forces of function, culture, climate, technology and economics. Design problem to encompass the spectrum of concerns from site planning to interior design.

4346 (KFU82) ARCH 451 DESIGN VIII.
CR 5, CH 15,

Architecture as a distinct yet highly connected element of urban systems; design problem to emphasize concerns of private versus public functions, connections to urban context and building form - urban pattern inter-dependence.

4347 (KFU82) ARCH 501 DESIGN IX
CR 5, CH 15,

Design of an architectural and/or planning system relevant to the developmental needs of Saudi Arabia; integrated preliminary design to reflect the student's area of concentration; special sections for various areas of concentration possible.

4551 (KFU82) ARCH 552 THESIS
CR 3, CH 4,

This is a study report involving collection of information, analysis and conceptual framework of Design X. The student should submit his thesis report and have it approved before starting Design X.

4552 (KFU82) ARCH 511 ARCHITECTURAL AND URBAN FUTURES
CR 7, CH 21

Study of futures as scientific speculation and anticipatory planning and design; major trends and indications of possible futures and measures of corresponding quality of life in Saudi Arabia; special focus on architectural and urban phenomena.

APPENDIX FOUR - D.4

DESIGN STUDIOS ABSTRACTS, UNIVERSITY OF PETROLEUM AND MINERALS

GRPS COURSE ABSTRACTS

4121 (UPM82) ED 102 ENVIRONMENTAL DESIGN STUDIO II
CR 5, CH 13,

Design of forms and spaces based on an understanding of natural and social processes. Both short and long term problems are given which explore the effect of nature (climate, topography, materials, etc.) and society (behaviour, cultural factors, etc.) on design. The problems presented are at an elementary level.

4331 (UPM82) ARC 201 DESIGN STUDIO I
CR 5, CH 13,

The first of a five semester sequence of design Studios. This course provides introduction to the design process with

practical application to the design of human habitat with emphasis on climatic and cultural effects on design. The teaching methods include seminars, desk criticism, and reviews of work. Design exercises are addressed through team and individual study.

4332 (UPM82) ARC 202 DESIGN STUDIO II
CR 5, CH 13,

The second of a five semester sequence of design studios. This course continues the application of the design process through introducing more complex buildings and larger project sites; the emphasis is on programming, structural elements, and introduction to working drawings.

4343 (UPM82) ARC 304 DESIGN STUDIO III
CR 5, CH 13,

The fourth of a five semester sequence of design studios. This course introduces problems of architectural design dealing with building types of greater complexity. The focus may be on housing, cultural issues, energy issues, or other such topics. The emphasis is on structural solutions and building materials.

4344 (UPM82) ARC 305 DESIGN STUDIO IV
CR 5, CH 13,

The last of the five semester design sequence. This course is a continuation of the issues dealt with in previous design studios with special emphasis on the detailed development of the building as a material construct and on the use of mechanical systems.

4551 (UPM82) ARC 406 SENIOR THESIS I
CR 6, CH 16,

4552 (UPM82) ARC 407 SENIOR THESIS II
CR 6, CH 16,

During the senior year, the student develops a thesis or project approved by the project thesis advisor. The thesis should enable the student to apply the knowledge and skills developed in the program to the study of a problem of his choice; to demonstrate ability in problem analysis and in the development of a design proposal; and to demonstrate ability in preparing a final design and complete shop drawings for his project. The student is required to carry out research on his chosen subject prior to the formulation of his design proposal. The subject could be from any of the cognate fields of architecture, urban design, or planning; all work is to be presented in both graphical and written form. The thesis is to be completed in two consecutive semesters.

APPENDIX FIVE

SELECTED COURSE OUTLINES

Three courses have been selected to be included in this appendix in order to provide evidence of the present state of the art in History courses. These are:

- A. "HISTORY OF ISLAMIC ARCHITECTURE" COURSE AT KING ABDULAZIZ UNIVERSITY - JEDDAH (AS STILL OFFERED IN 1986).

(Obtained from Course Files archive of the School of Environmental Design.)

- B. "THE ART OF ISLAM" COURSE AS OFFERED AT THE UNIVERSITY OF COLORADO AT BOULDER, U.S.A., (SPRING OF 1978).

(Obtained from original document sent to School of Environmental Design by Professor Hoag.)

- C. "MODERN ARCHITECTURE" COURSE AS OFFERED AT THE UNIVERSITY OF COLORADO AT BOULDER, U.S.A., (SPRING 1978).

(Obtained from original document as stated above).

A. HISTORY OF ISLAMIC ARCHITECTURE COURSE AT KING ABDUL-
AZIZ UNIVERSITY - JEDDAH (AS STILL OFFERED IN 1986)

(Course Tutor : Dr. Abdulqadir Rehawi)

Course: AR 411 HISTORY OF ISLAMIC ARCHITECTURE
(3 Credit Hours weighting, 4 Contact Hours per week)

Abstract: Two 2-hour lecture-sessions per week. A complete survey and detailed analysis of Islamic architecture through history. The cultural, social and philosophical aspects of the different periods are stressed.

Aims (general goal/s) of the course:

1. To recognize the Islamic heritage in architecture.
2. To study the special characters of Islamic architecture and its development in Islamic countries and during different historical periods.

Objectives (specific skills to be gained) of the course:

1. The student is expected to acquire a deep insight into various design aspects, architectural elements and decoration features of Islamic Architecture.
2. As a consequence, the student will be influenced in his future career, as a muslim architect, with these basic principles.

Weekly Flow Chart of the Course:

WEEK	SESSION	DESCRIPTION
01	1	General view of Architecture during the Islamic Civilization, it's special qualities
	2	Summary of Pre-Islamic Architecture in the Middle East.
02	3	Foundation of Islamic Architecture in Omejad Period. The Omejad Mosques and Palaces.
	4	Detailed study of Omejad Mosque of Damascus. Study of plans and documents on slides.
03	5	Development of Islamic Architecture in Abbasid Period.
	6	Detailed study of the major Abbasid buildings. Ukhaider Palace, Great Mosque of Samarra, Ibn Tulun Mosque.
04	7	Local architecture style in Abbasid Period (East & West). Practical study on plans.

- 8 Study of selected English Texts.
Study of selected Technical terms.
- 05 9 Quiz.
10 Result of Quiz. Correct answers given and
discussed with the students
- 06 11 Omeyyad Architecture in Andalus (Spain).
Detail study of the Mosque of Cordobo.
12 The Fatimid Period and its Architecture.
Description of Fatimid Mosques of Cairo.
- 07 13 Development of Islamic Architecture under
Seljukides.
Study of design architectural elements and
decoration.
14 Study of the Seeljudia buildings in Iraq,
Syria.
Anatolia and Eastern countries.
- 08 15 Ayubid Architecture in Egypt and Syria.
Military Architecture - Citadel of Damascus.
16 Selected text and technical terms.
- 09 17 Mid-term Examination.
18 Result of Examination. Explanation of correct
answers to the students.
- 10 19 Mamluk Period Architecture in Egypt and
Syria; Studies on design, architecture ele-
ments and decoration.
20 Detailed study of Sultan Hassan Madrasa &
Aroonsha Bemaristan.
Practical study on plans and documents.
- 11 21 Arch. in Maghreb & Andalus during the time of
Murabitin & Moahidin.
Studies of the important monuments-practical
study on plans.
22 English Texts and technical terms therein.
- 12 23 Quiz.
24 Marinid Period in Magreb. Granada and al Hamra
Palace.
- 13 25 Ottoman Period; Development of design and
architecture elements
26 Study of major Ottoman buildings in Turkey &
other countries.
Practical study on plans and slides.
- 14 27 The Islamic Architecture in Eastern Islamic
countries. Ilkhanides, Taimoorides and Safa-
wides.
28 The Islamic Architecture in India. Famous
monuments.
- 15 29 Final Examination.

B. "THE ART OF ISLAM" COURSE AS OFFERED AT THE UNIVERSITY OF COLORADO AT BOULDER, U.S.A., IN SPRING OF 1978.

Course Name: FAH 406/506 - The Art of Islam

Semester: Spring 1978 Time: 11:00 - 12:15, T., Th.

Date	Topic
Jan. 24	The Heritage of the West, Rome and Byzantium.
Jan. 26	No Class.
Jan. 31	The Heritage of the East Parthians and Sassanians.
Feb. 2	Formative Islam I-Ummayad Caliphate-Religious Art.
Feb. 7	Formative Islam II-Ummayad Caliphate- Secular Art.
Feb. 9	Formative Islam III-The Abbasid Caliphate 915 A.D.
Feb. 14	Formative Islam IV - Tulunid Egypt.
Feb. 16	Formative Islam V-The Celiphate of Cordoba and the Emirate of Zaragoza.
Feb. 21	Formative Islam VI-Aghlabids and Fatimids in Ifriqiya 969.
Feb. 23	Formative Islam VII-The Samanids and Ghaznavids of Persia.
Feb. 28	Classic Islam I-Almoravids and Almohads in N. Africa and Spain
Mar. 2	Late Classic Islam I - The Merenids of N. Africa and Nasrids of Spain.
Mar. 7	HOUR EXAMINATION
Mar. 9	Classic Islam II - The Fatimids of Egypt.
Mar. 14	Classic Islam III-Zengids, Ayyubids, Bahri, Mamluks of Egypt and Syria.
Mar. 16	Late Classic Islam II-The Burji Mamluks of Egypt.
Mar. 23	Classic Islam IV - Seljuk Persia.
Apr. 4	Classic Islam V - Seljuk Turkey.
Apr. 6	No class.
Apr. 11	Classic Islam VI - The Later Abbasid Caliphate.
Apr. 13	Classic Islam VII - Early Islamic Painting.
Apr. 18	Late Classic Islam III - Ilkhanid Persia.

- Apr. 20 Late Classic Islam IV - Timurid Persia.
- Apr. 25 Late Classic Islam V - India before 1526.
- Apr. 27 Post Classic Islam I - The Ottoman Empire.
- May 2 Post Classic Islam II - Ottoman Painting.
- May 4 Post classic Islam III - The Safavid Empire.
- May 9 Post Classic Islam IV - Safavid Painting.
- May 11 Post Classic Islam V - The Moghul Empire.
- May 16 Post classic Islam VI - Moghul Painting.
- May 22 Final Examination: 7:30 - 10:30

SUGGESTED REPORT TOPICS FAH 406/506 - The Art of Islam
 J. D. HOAG Spring 1978

- Feb. 16 Ivories of the Cordoban Caliphate.
- Feb. 21 The Pre-Almoravid History of the Mosque of al Qarawiyyin at Fez.
- Feb. 23 Samanid Ceramics.
- Feb. 28 Almohad Textiles.
- Mar. 2 The Merinid Tombs near Rabat.
- Mar. 9 Fatimid Rock Crystal Vessels.
- Mar. 14 Syrian Enamelled Glass.
- Mar. 16 Mamluk Carpets.
- Mar. 23 Ceramic Mihrabs in Persia.
- Apr. 4 Seljuk Carpets of the 13th c. in Turkey.
- Apr. 11 The Automata of al Jaziri.
- Apr. 13 Illustrations Dioscurides Materia Medica.
- Apr. 18 Ilkhanid Ceramics.
- Apr. 20 What Babur saw in Samarkand and Herat.
- Apr. 25 The Mosques of Jaunpur.
- Apr. 27 Ottoman Ceramics.
- May 2 Portraits of the Ottoman Sultans.
- May 4 Safavid Carpets.
- May 9 Figurative Tiles in Secular Safavid Art.
- May 11 Moghul Textiles.

BIBLIOGRAPHY
 J. D. HOAG

FAH 406/506 - The Art of Islam
 Spring 1978

TEXT BOOKS

- Grabar, Oleg, The Formation of Islamic Art, Yale University Press, 1973
- Rice, David Talbot, Islamic Painting, Edinburgh University Press, 1971
- Rice, David Talbot, Islamic Art, Praeger, New York, 1965

- Arslanapa, Oktay, Turkish Art and Architecture, Praeger, N.Y., 1971
- Atasoy, Norhan and Cagman Filiz, Turkish Miniature Painting, R.C.D. Cultural Institute, Istanbul, 1974
- Bosworth, C.E., The Islamic Dynasties, a chronological and genealogical handbook, Edinburgh, 1967
- Binyon, Wilkinson and Gray Persian Miniature Painting, Dover, 1971 (originally published 1933)
- Briggs, Martin S., Muhammadian Architecture in Egypt and Palestine, Da Capo, N.Y., 1974 (originally 1924)
- Brown, Percy, Indian Architecture, Islamic Period, 2nd Ed., Taraporevala, Bombay, 1949
- Cresswell, K.A.C.A., A Bibliography of the Architecture, Arts and Crafts of Islam, American University, Cairo, 1961 and supplement.
- Cresswell, K.A.C.A., The Muslim Architecture of Egypt (2 vols.), Oxford, 1939
- Cresswell, K.A.C.A., Early Muslim Architecture (2 vols.) Oxford, 1932
- Cresswell K.A.C.A., Early Muslim Architecture, 2nd Ed., 2 parts one volume, Oxford, 1969
- Cresswell, K.A.C.A., A Short Account of Early Muslim Architecture, Penguin Books, Hammondsworth, 1958
- Godwin, Godfrey, A History of Ottoman Architecture, Thames and Hudson, London, 1971
- Hill, Derek and Grabar, Oleg, Islamic Architecture and Its Decoration, 2nd Ed., Faber & Faber, London, 1967
- Hoag, John D., Western Islamic Architecture, Braziller, N.Y., 1963
- Mercais, George, L'Architecture Musulmane d'Occident, Art et Metiers Graphiques, Paris, 1955
- Pope, Arthur (ed.), Survey of Persian Art, (vols. 2 & 4), Oxford, 1939
- Scherr-Thoss, Sonia P., Design and Color in Islamic Architecture, Smithsonian, Washington, D.C., 1968
- Wilber, Donald, The Architecture of Islamic Iran, Ilkhanid Period, Princeton, 1955

C. "MODERN ARCHITECTURE" COURSE AS OFFERED AT THE UNIVERSITY OF COLORADO AT BOULDER, U.S.A., IN SPRING 1978.

Course name: FAH 495/595 - Modern Architecture

Semester: Spring 1978

Time: 2 - 3:15, on Tuesday and Thursday.

Course Tutor: J. D. Hoag

- Jan. 24 Introduction.
- Jan. 26 No Class.
- Jan. 31 Romantic Classicism, I - The Sublime.
- Feb. 2 Romantic Classicism, II - In Europe.
- Feb. 7 Romantic Classicism, III - In America.
- Feb. 9 The Picturesque to c. 1850.
- Feb. 14 New materials and Programs 1790-1855.
- Feb. 16 The Second Empire and the Renaissance Revival.
- Feb. 21 High Victorian Gothic in England and America.
- Feb. 23 The Crafts Revival in England, William Morris.
- Feb. 28 The Earlier Works of Antoni Gaudi.
- Mar. 2 The Architecture of Henry Hobson Richardson I.
- Mar. 7 The Architecture of Henry Hobson Richardson II.
- Mar. 9 The Art Nouveau I-Victor Horta and Hector Guimard
- Mar. 14 The Art Nouveau II- The Later Works of Antoni Gaudi.
- Mar. 16 Hour Examination.
- Mar. 21 The Architecture of Louis Sullivan I.
- Mar. 23 The Architecture of Louis Sullivan II.
- Apr. 4 The Architecture of Frank Lloyd Wright before 1909.
- Apr. 6 No Class.
- Apr. 11 De Stijl and the Bauhaus.
- Apr. 13 Early Modern Architecture, Peter Behrens, Auguste Perret.
- Apr. 18 Expressionism and Visionary Architecture in

Holland, Germany and elsewhere.

- Apr. 20 Frank Lloyd Wright - 1909 - 1935
- Apr. 25 Le Corbusier and the Second Generation of Modern Architects.
- Apr. 27 Frank Lloyd Wright - 1935 - 1959.
- May 2 "Traditional" Architecture in the 20th Century.
- May 9 The Third Generation of Modern Architects I.
- May 11 The Third Generation of Modern Architects II.
- May 16 Architecture Now.
- May 18 Final Examination - 1530 -1830

TERM PAPER REQUIREMENTS

LOCATION
PRESENT OWNER
PRESENT OCCUPANT
PRESENT USE
SIGNIFICANCE

Part I. HISTORICAL INFORMATION

A. PHYSICAL HISTORY

1. Original and subsequent owners
2. Date of erection
3. Architect
4. Original plans construction, etc.
5. Alterations and additions
6. Important early views

B. HISTORICAL EVENTS CONNECTED WITH THE STRUCTURE

C. SOURCES OF INFORMATION

Part II. ARCHITECTURAL INFORMATION

A. DETAILED DESCRIPTION OF THE EXTERIOR

1. Overall dimensions
2. Materials, foundation, walls, roof
3. Wall construction
4. Porches, doors, windows (type of framing)
5. Shape of roof covering, presence of dormers, etc.

B. DETAILED DESCRIPTION OF THE INTERIOR

1. Floor plan
2. Number of storeys, type and materials of stairs.

3. Finish of walls, ceilings, etc.
4. Decorative features and trim
5. Notable hardware
6. Lighting
7. Heating

C. SITE

1. General setting and orientation
2. Enclosures
3. Landscaping

Part III STYLISTIC ANALYSIS OF NO LESS THAN 2000 WORDS

BIBLIOGRAPHY for FAH 495/595 - Modern Architecture
by J.D. Hoag Spring 1978

TEXTBOOK: Hitchcock, Henry-Russell: Architecture: nineteenth and twentieth centuries, Pelican History of Art, Baltimore, 1971

BOOKS ON RESERVE IN ART & ARCHITECTURE LIBRARY:

- Andrews, W., Architecture, Ambition and Americans, N.Y. 1955
- Boesigeer, W. & Ginsberger H., Le Corbusier, His Works, 1910-1960, N. Y., 1960.
- Collins, G., Antoni Gaudi, N.Y., 1960.
- Condit, C., The Chicago School of Architecture, Chicago, 1964
- Cornley, W., Louis Sullivan as He Lived, N.Y. 1960
- Drexler, A., Ludwig Mies van der Rohe, N.Y., 1960
- Giedion, S., Architecture You and Me, the Diary of a Development, Cambridge, 1958
- Giedion, S., Space, Time & Architecture, 5th ed., Cambridge, 1967
- Giedion, S., Walter Gropius, London, 1954
- Hamlin, T.F., Forms and Functions of Twentieth Century Architecture, 4 vol., N.Y., 1952
- Hatje, G., (ed.), Encyclopedia of Modern Architecture, N.Y. 1964.
- Hitchcock, H.R., The architecture of the H.H. Richardson and His Times, 3rd ed., Cambridge, Mass., 1966
- Hitchcock, H.R., In the Nature of Materials, The Buildings of Frank Lloyd Wright, 1887-1941, Da Capo Press, 1975 (1st ed., 1942)
- Hitchcock, H.R. & Johnson, P., The International Style: Architecture Since 1922, 2nd ed., N.Y., 1966
- Kaufmann, E., Architecture in the Age of Reason, Cambridge, 1955
- Madsen, S.T., Sources of the Art Nouveau, N.Y., 1956.
- Meeks, Carroll L.V., The Railroad Station, New Haven, 1956
- Pevsner, N., Pioneers of Modern Design, Harmondsworth, 1960
- Temko, A., Eero Saarinen, N.Y., 1962
- Wright, O.W., Frank Lloyd Wright, His Life, His Work, His Words., N.Y., 1966.

APPENDIX SIX

GLOSSARY OF SOME IMORTANT TERMS USED IN THE TEXT

A number of systems exists for transliterating Arabic words into English with various degree of success. From linguistic, phonetic point of view the situation is rather chaotic. One latest attempt at standardizing a system is found in a small publication by Isma^oil Raji al Faruqi.[*] A modified version of this proposal will be adhered to here. For example in the main text all the words, even though they may be repeated many times, will be underlined for easy recognition. A list of latin alphabet equivalentents adopted for transcription of theArabic script is given below.

The Arabic definite article (Al-), when rendered at the beginning of a word, is not considered for alphabetic indexing and left in lower case.

[] indicates another related word/term that is included in the glossarry and can be referred to.

TRANSLITERATION OF LETTERS:

Consonants

b	ب	t	ط
t	ت	z	ظ
th	ث	c	ع
j	ج	gh	غ
h	ح	F	ف
kh	خ	q	ق
d	د	k	ك
dh	ذ	l	ل
r	ر	m	م
z	ز	n	ن
s	س	h	هـ
sh	ش	w	و
s	ص	v	ي
d	ض		

Vowels

a	ا
u	و
i	ي
a	آ
u	و
i	ي
a	آ
u	و
i	ي
'	(final or median)
x̄	elongate by one more letter.

[*] Isma^oil Rāji al Fārūqī, Toward Islamic English, (Ann Arbor: New Era Publications, 1986).

ADHĀN

The call made from an elevated point by the [MUADHDHIN], the one who calls the adhan reminding the faithful that the time for one of the five daily [SALAT] has already set in, and inviting them to its performance.

AKHIYYUN

Brotherhoods organised as a kind of a religious order, usually amongst members within the same craft. The Sheikh of the brotherhood would be very knowledgeable in the craft as well as of high learning and morals. He would command obedience and in addition to the craft affairs provide a social environment for the activities of its members.

AKHIRAH, al-

Hereafter. The third and eternal stage during which man will continue with his life. Its existence is attested to by faith.

ALLAH (subhanahu wa ta'ala). See also [GOD].

The name that the Creator, generally known as God in English, chose to be known by in the Qur'an. The cosmogeny of Islam posits a God-centred universe, in which only the Source, Allah Himself can be said to be real; everything else is a contingent being. Fundamental to the doctrine of Islam is [TAWHID], the belief in His unity and His unicity.

In the Qur'an (6:103) Allah speaks of himself as

"No vision can grasp Him,
But His grasp is over
All vision: He is
Above all comprehension,
Yet is acquainted with all things."

In the words of Najm al-Din al-Nasafi: "God Most High, the One, the Eternal,... He is not an attribute, nor a body, nor an essence, nor a thing formed, nor a thing bounded, nor a thing numbered, nor a thing divided, nor a thing compounded."

The name of Allah is often written together with the invocation as above which means "Glorified and exalted is He".

°AMAL [Action]

The action that accords and agrees with the injunctions of the Allah Almighty and with the deeds of the Prophet, may Allah bless him and grant him peace. In this sense everything that a Muslim does is considered to be an action and never a reaction, a behaviour based on selfish responses to incidents rather than being in accord with the above definition. Action is considered to be of four kinds:

- Those pertaining to the heart,
- Those pertaining to verbal action,
- Those pertaining to physical action, and
- Those pertaining to the act of refraining from the prohibited action

ASNAF

Craft and Trades.

ASR AS-SAĀDAH (The Age of Bliss)

The formative stage of Islam under the authority of the Prophet, may Allah bless him and grant him peace. This formative stage which lasted upto his demise.

ĀYĀT

Verses of the Qur'an. Also signs/portents of Allah's will in the universe.

‘AQL, al- [RATIO or REASON]

The channel of man's acceptance and understanding of revealed truths. Ratio is not an authority to shape the truth but a means to fathom its meaning and remain at its service.

In Islam reason is exercised to its fullest capacity in the religious domain. Thus extended it would recognise its own limitations and admit the existence of true, uncorrigible and infallible knowledge which can only be obtained from authentic and genuine messengers of Allah Almighty.

Revelation is not finally judged by human reason, yet nonetheless it must stand the test of reason.

‘AQLIYYAH - See [RATIONALISM]

‘AQĀ’ID [System of Belief]

The science that enumerates what things to believe in and how to believe in them.

ARABESQUE - See [AL-TAWRIQ]

ARCHITECT

(Within the western epistemology) the professional person who, as the appointed agent of a client, provides designs for buildings and edifices that accord with personal or current stylistic/aesthetic theories as to what is appropriate, also exercising a general supervision over its realization,

AWKAF See [WAQF]

BADAWAH

It connotes the non-settled life of the desert. Nomadic culture, in contrast to [HADARAH] which connotes urbanity.

BĀTIN

The inner invisible, spiritual aspects of things. The essence. They are of higher importance in Islam than the exteriorized aspects, the [ZĀHIR], which should be subordinated to it.

BELIEF- See [IMAN]

BUILT-ENVIRONMENT

The crystallization in temporary or permanent statements of the physical results emanating from the interaction between Man and Nature. The interaction takes place always in conformity with the attributes of both man and nature, attributes which are in-built in their creation. It is directed towards the satisfaction of the observed needs of Man, and achieved through his considered utilisation of the available natural resources.

COMPREHENSION, [IDRAQ](The Culture of)

The minimum amount of knowledge in all fourteen fields of sciences that has to be exposed to the conscious world of a person in order to enable him to comprehend any matter in its totality. Generalised knowledge. See also Appendix One for details of these fields of sciences.

CIVILIZATION

The state of being civilised, i.e. of fulfilling the conditions of developed social organisation peculiar to the city in contrast to the inhabitants of the countryside. They include the capacity of the members to live, to carry out their business and to adjudicate their disputes under the rule of law; to rise in defence of their corporate existence when threatened; to use written language for storage and retrieval of cumulative wisdom; to make advances in arts and science; generally to improve the quality of life.

The concept is of Greek inspiration. By it the Greeks distinguished themselves from the Barbarians who were devoid of cities and presumed to be devoid of the desired qualities. Thus it is imbued with city superiority. See [MADANIYYAH], [ḤADĀRAH].

CULTURE [THAQĀFA]

What remains as conscious awareness in one's mind regarding the knowledge of things that one stops forgetting after having been repeatedly exposed to their existence.

DAR AL-HARB

The environment on earth that still remain outside the authority of Islam within which other orders based on systems developed by human beings prevail. As such it is not conducive for the well being and sustenance of the Divine Order in order to improve Man's lot in life.

DAR AL-ISLAM

The environment on earth within the boundaries of which Islam's own authority prevails making it congenial and supportive for the expression and realisation of the Divine order through moral choices made by Man.

DEATH

It is a transformation in the types of action whereby the previous set of actions is concluded and another started along the three stages of human life cycle (womb, earth and Hereafter). It does not mark a cessation of activities. Whilst the transformation itself is considered as "death" to the previous stage, it is a "birth" to the next stage. See also [LIFE].

DĪN [RELIGION]

The totality of laws in five fields:
[[°]ITIQAD], what one believes in,
[[°]AMAL]/[IBĀDAT], actions, practice and worship
related to the first,
[AKHLAQIYYAT], [ETHICS]
[IJTIMAIYYAT], social rules and norms, and finally
THE SYSTEM OF THOUGHT.

If these laws, identified as [religion] have been codified by the Creator and conveyed through His prophets, it is then referred to as being the True Religion. If they have been codified and composed by man in order to represent a religion, than it is referred to as a False Religion.

The five areas composing the totality of laws are further divided into two groups: that of [BELIEF], the first field, and that of [SHARIAH] the last four fields. Thus shariah is the totality of laws related to "practice", "ethics", "system of thought" and "social norms".

EDUCATION See [TARBIYYAH]

ENVIRONMENT

The physical state existing at a particular time and place within the universe as a sum total of the whole array of animate or inanimate objects with their active/passive attributes and activities.

It is considered in various forms: [Natural] implying a pristine form as originally created by Allah Almighty and left to its own processes of modification and change; [Man-made] implying those that purposefully formed by man through a process developed by him.

EXHAUSTIVE SCIENCES [°ILM AL-QAT'I]

Those related branches of science that are based on [WAHY], and as such obtained through the prophets, which are all comprehensive, already completed and perfected. They are :
[AQĀ'ID] [FIQH] [TAFSIR]; [ḤADĪTH]; [TAŠAWWUF].

EXPRESSION [IFĀDAH]

The act through which an image conceived in one's mind is also transmitted with the same exactness to the mind of another person, using the minimum of means. This could be verbal or visual.

EXPRESSION, [IFĀDAH] (The Culture of)

The knowledge that one needs to become conscious of in one of the fourteen basic broad fields of science beyond the level of Culture of Comprehension so as to enable one to make others comprehend the knowledge content of that field.

Specialised knowledge.

EPISTEMOLOGY

The classification and theory of knowledge that accords with the world view of a System of Thought. In Islam knowledge/sciences are considered in two groups as [EXHAUSTIVE SCIENCES] and [INEXHAUSTIVE SCIENCES].

FARḌ AL-°AYN (Individually requisite)

Acts that are obligatory on each and every Muslim, non-observance of which will generate an accountable deed in the Hereafter.

FARḌ AL-KIFĀYAH (Socially requisite)

Acts that are obligatory on each and every Muslim unless performed by some members of the community, in which case non-observance by the individual would not necessitate any accounting in the Hereafter.

FAQĪH (Pl.FUQAHĀ')

Juristconsult.

FIQH

Literally "understanding", "discernment". Terminologically Islamic Jurisprudence. Deals with all injunctions related to [°IBADAH], [MU°AMALAT], and [°UKUBAT].

FUTUWWAT

Chivalry orders for the youth, active especially during the early expansion periods of Islam.

GHAYB

Literally the unknown. Terminologically all the knowledge that has not been deposited within the soul of man at his creation. Belief in ghayb is part of a muslims [IMAN].

GOD- See also [ALLAH]

The English rendering signifying the One Creator when used in its definite form and considered the equivalent of [ALLAH], the name that The Creator adopted as His in the Qur'an. However in its generic form as "god"(s) it would be misleading as the Arabic equivalent would be ilah. A further complication arises at times due to the Christian concept of "Trinity" being invisibly incorporated within the meaning of the word "God" in English. Thus "Allah" may be preferred in English as well when discussing specifically Islamic concerns and concepts, though no hard and fast rules can be laid down.

HADĀRAH

It connotes urbanity in contrast to [BADAWAH] which connotes the non-settled life of the desert, or nomadic culture. It is wrongly translated into English as 'civilization' and vice versa. See also [CIVILIZATION] and [MADANIYYAH].

HADĪTH (Pl. AHĀDĪTH)

Sayings and doings of Prophet Muhammad, peace be on him, which were painstakingly verified and scrupulously guarded by the [MUHADDITHUN]. As a term it denotes the written records of all the three categories of [SUNNAH].

HAJJ

Once in a lifetime obligatory pilgrimage made by Muslims who have acquired the necessary means to the MAKKAH, MINA, MUZDALIFAH and ARAFAT region at a particular time of the Hijri year. It is an act of re-living the story of Hagar with her baby Ishmael, and Abraham's leading of young Ishmael to be sacrificed. The environment within which the Hajj activity takes place has great significance to the shaping of an Islamic built environment.

HALAL

That which is permissible in Islam.

HARAM

That which is prohibited in Islam.

HAYĀ'

Literally it means: Modesty, decency, as opposed to shamelessness, arrogance, exhibitionism.

HIJRAH

The migration of Prophet Muhammad peace be on him, from Makkah to Madinah in the year of 622 C.E. resulting in the establishment of the first political entity of Islam with the promulgation of the Madinah Constitution. It is also the starting point of the Muslim Calendar which utilises a lunar measure rather than a solar one.

HISBAH

The office of the [MUHTASIB], the institution that provided the control mechanism for the fulfilment of the right norms of public behaviour within the urban domain under the [MUHTASIB]. Its purpose can also be described as the enforcement of [MA[°]RUF] (what is right) and the prohibition of [MUNKAR] (what is wrong).

IBĀDAH

The act of serving and giving obedience to Allah Almighty, for which duty for which Man and Jinn has been created for. Literally all acts of a Muslim

as none of his acts should be contrary to what the Creator has promulgated. In usage the meaning sometimes confined to various acts of worship.

IDRAK - See [COMPREHENSION]

IFĀDAH - See [EXPRESSION]

IHYĀ'

Making life flourish.

I'JĀZ

Wonderfulness, sublimity, miraculous.

IJAZAH

The authority granted by the adopted Master to his student to teach to others a particular science. Having learned the factual content of a branch of science was not deemed sufficient for its granting. The Master had to assure himself that the person was also trustworthy in his actions, thinking and belief.

IJMA^c (concensus)

Agreement reached by acknowledged jurists of Islam, either in one locality or over the entire [UMMAH]. It forms the third principal source of Islam, coming after [QUR'AN] and [SUNNAH]. The fourth is [QIYAS].

IJTIHAD

Exerting oneself to the utmost degree to reach comprehension and form an opinion. Its exercise requires the fulfilment of certain rather stringent conditions. Individual Ijtihad may be out of the reach of the contemporary Muslim.

°ILM (pl. °ULUM)

In Islam it is used as a very comprehensive term to connote [KNOWLEDGE] as well as [SCIENCE].

1. Totality of knowledge present in the subconscious world of Man. What Man can become conscious of as a whole. There is knowledge beyond that placed within the consciousness of Man. This is within the °ilm of the Creator. See also [GHAYB].

2. Any scientific study.

3. A particular discipline of knowledge either in general or particular categories.

4. The amount of knowledge that has been exposed to man's consciousness.

°ILM AL-AKHLAQ

Knowledge related to personal relationships between members of the community.

°ILM AL-HADĪTH,

A separate body of science developed during the third century A.H. to sift through and verify the authenticity of the ahādīth of Prophet Muhammad.

°ILM AL-IHTIMĀLI [INEXHAUSTIVE SCIENCES]

°ILM AN-NAFS (Psychology)

The science that studies the effects of psych/spirit on the body. It does not concern itself on the nature of psych as Allah Almighty has not included it amongst the knowledge given to Man.

°ILM AL-QAṬ'Ī [EXHAUSTIVE SCIENCES]

°ILMĪ HAL

Catechism. Laws pertaining to worship.

ĪMĀN

In Islam it signifies "conviction" which is absolutely free of doubt, of probability of guessing and uncertainty. It is the truth given to the mind and not to man's credulity. As a term it is defined as: The belief in Allah, and in those things that He has ordained belief in, in the way that He has defined.

"Belief" and "faith" have been translated as the equivalent of iman but their usage should be carefully considered in as much as they generally carry within them implications of untruth, of probability, of doubt and suspicion.

IMAM

Literally the person in front who leads. It is used as the title of the person who leads the congregational performance of [SALAT].

It is also the title given by Shi'ah to the first twelve members in the line of the progeny of Ali, the son-in-law of the Prophet and the last of the four [RIGHTLY GUIDED CALIPHS]. In their consideration the Headship of the Islamic state is considered to belong only to the House of Ali, and the state is thus known as [IMAMATE] as opposed to the Sunni consideration where the state is known as [CALIPHATE].

IMAMATE

The title of the state that constitutes the political entity of Shi'ah.

al-°IMĀRAH

The act of reconstructing and shaping the surface of earth (the built environment in order to make it more suitable than before for the sustenance and wellbeing of human life, and facilitating man's [°IBĀDAH].

The root word from which this and a host of other related words are derived is °umr, which literally means "life". It is a Qur'anic expression that has considerable significance and scope of meaning all dealing with the act of re-shaping, re-building, re-constructing everything that relates to life of a human being. Thus one can speak of the °imār of the heart, or the °imār of a house or a city or a country.

INEXHAUSTIVE SCIENCES [°ILM AL- QAṬ'Ī]

Those related fields of science that are open for further development and progress as a result of man's efforts. In those cases whereby contents of inexhaustive sciences contradicts those found in the exhaustive ones, than the exhaustive one becomes the postulate and deciding factor.

INSĀN - (Man)

The best of Allah's creation, created as [KHALIFAH] of Allah on Earth, in order to make [°IBĀDAH] (serve and give obedience) to Allah. Considered as [MUKALLAF] amongst the Creation. Amongst his obligations is the act of [°IMĀRAH].

In the Qur'an Allah Almighty says: 'The universe could not contain Me, but the heart of the Believer was large enough for Me.'

ISLĀH

Establishment of well-being and prosperity.

ISLAMIC ARCHITECTURE

A misnomer. Used to mean a number of things. Buildings carried out by Muslims; religious buildings used in connection with religious ceremonies. To be precise one can use the term [ARCHITECTURE] of Muslim Countries. When "Islamicity" of the building is what is meant, the term [AL-°IMARAH] should be preferred after having assured its presence.

ISTI°MĀR

Reconstruction or the development for the better in reference to the life of a human being on earth. See [°IMĀRAH]

JAZĀKUM ALLAH KHAYR AL-JAZĀ

Literally "May Allah grant you the best reward", said as an expression of gratitude to anyone who has given something or rendered a service.

JIHAD

Literally striving in the way of Allah. It has been defined by Prophet Mohammad, may peace be upon him, as being of two kinds the "Bigger Jihad" which relates to man's striving with his self/ego/psyche so as to keep within the bounds defined by Allah Almighty, and the "Smaller Jihad", all the rest of actions, specifically having to fight in the cause of Allah Almighty.

KA°BAH

The nearly cubic stone building in Makkah, originally constructed by Abraham and his son Ishmael, rebuilt many times in later years. Original shape was not a true cube. Any symbolic association of the building with the shape of a cube as a mystical entity is not substantiated within the doctrine of Islam.

Its sole significance lies in it being the axis mundi of Islamic cosmology, the centre towards which Muslims turn to during the five times daily [SALAT]. Its circumambulation for seven times is also an act of worship in itself.

KETHIF

Dense.

KHALIFAH

Literally the successor, the inheritor. It is the title accorded to [INSAN] by Allah Almighty as His vicegerent on earth. It is also used as the title of the successors to the Prophet, may Allah bless him and grant him peace, who took charge of the [UMMAH] as its leader, the first being Abu Bakr. It became the title of the head of the state of [SUNNI] Islam in contrast to the title of [IMAM] used for the head of the polity by [SHI°AH].

KHILAFAH (Caliphate)

The condition of being the successor, the inheritor.
The designation of the mission of Man on earth. Used also as the title of the political entity formed by Muslims in succession to the formative stage of Islam under the authority of the Prophet, may Allah bless him and grant him peace. This formative stage which lasted upto the demise of the Prophet, may Allah bless him and grant him peace, is also referred to as the [ASR AS-SĀDAH], (The Age of Bliss). It was followed by the period of

the [KHULAFĀ AR-RASHIDUN], (The Rightly Guided Caliphs). After this stage started the hereditary or dynastic period of the Caliphate beginning with Mu^awiyyah's son Yazid. Then the Caliphate was known by the name of the dynasty such as Umayyad, Abbasids,... Ottomans. The office of the caliphate was shorn from its political authority by the establishment of the Republic of Turkey in 1923, and a few years later the post itself was abolished as far as the republic of Turkey was concerned.

[KHULAFĀ AR-RASHIDUN], (The Rightly Guided Caliphs)

It encompassed the period of the first four caliphs. After this stage started the hereditary or dynastic period of the Caliphate beginning with Mu^awiyyah's son Yazid. Then the Caliphate was known by the name of the dynasty such as Umayyad, Abbasids,...Ottomans.

KUTUB SITTAH

Six books that found universal acceptance amongst the Muslims as authentic and definitive collections of [AHADITH], compiled by six scholars independently of each other. The two by Bukhari and Muslim are the most well known.

LATIF

Lacking any density or physical substance. The condition of the unseen creation, angels and jinn.

LIFE

The chain of activities that body and spirit carry out together starting with inception in the womb and continuing till eternity. Life is considered to pass through three stages:

- a- Life in the womb.
- b- Life in the world.
- c- Life in the Hereafter.

The difference between each of these stages exists only in the goals and range of activities including the environment within which the attainment of these goals are sought. See also [DEATH].

MADANIYYAH

It is wrongly translated as the equivalent of the term [CIVILIZATION]. In the epistemology of Islam it is defined as the progress towards a "Goal Order" in an urban centre that has already instituted all the necessary units needed by man in order to enable him to carry out his activities.

The "goal order" or [NIZAM] is that defined by Islam. It is the some total of the ordered urban life system in an ethical, spiritual, material sense. The "units" referred to are all the urban institutions demanded by such an orderly life, such as educational, administrative, judicial, religious units, be they courts of justice, libraries, public baths, market places etc.

The Urban Centre, because it would possess all the units that can answer all the needs of the human being is the framework within which madaniyyah develops. However this concept does not leave out as "inferior" the non-urban parts of the lands inhabited by man. Within the historical progression of Madaniyyah in [DAR AL-ISLAM] towards its goal order many a rural centre became centres of intense scholarly activity, adding to and aiding the effort.

MADHAB (pl. MADHĀHIB)

Schools of thought in Islamic Jurisprudence. Out of many that developed in

early days only four have gained commanding support and have been accepted as representing the [SUNNI] (orthodox) Islam. These are: the HANAFI School developed by Abu Hanifa (d.AH150/767CE) and his students in Iraq, MALIKI School developed by Malik Ibn Anas (d. AH179/795CE) in Madinah, SHAFI[°]I School developed by al-Shafiii (d.AH204/819CE) in Cairo, and HANBALI School, developed by Ahmad Ibn Hanbal (d.AH241/855CE).

MAKRŪH

That which is unfavoured in Islam.

MARUF

That which is Islamically right.

MASJID (Pl. MASAJID)

Literally the surface upon which one makes Sajdah (the act of putting ones fore head on the ground in devotion).

Terminologically the place in which a Muslim can perform worship in congregation.

MI[°]MĀRI

The person whose profession is to shape the built environment in order to make it more suitable for the sustenance and well being of human life and for the [°IBĀDAH] of man.

MUADHDHIN

The person who calls the [ADHAN] from the minaret.

MUĀMALAT

Personal transactions between people.

Islamic law concerning all the dealings between people in civil, criminal, international as well as personal matters.

MUHADDITHŪN

Scholars of Hadith.

(Prophet) MUHAMMAD, Ṣallā Allahu ʿalayhi wa sallām. . .

The Prophet and Messenger of Allah, the Seal of the Prophets in whom the finality of the prophethood resides. In him all previous revelations come to a close because of being rendered otiose in virtue of his universality and finality. It is part of the ethics of Islam that his name is mentioned always with the phrase asking Allah's benediction over him. It is roughly translated as "May peace and blessings of Allah be upon him".

MUHTASIB

The person in charge of the institution of [HISBAH]. A post in use during Prophet's time, the main concern of which was to supervise the quality of public behaviour in all aspects of urban life, ensuring that transactions and behaviour were carried out in accordance with prescribed religious principles.

MUKALLAF

Being under TAKLIF, an obligation. In the case of Man, the obligation is [°UBŪDIYYAH], the worship of, and being in service to, Allah Almighty. It implies that there is also QUDRAH (capability to act) and IKHTIYAR (freedom to choose).

In the social order of Islam Insan becomes obligated at the point of reaching puberty. Up to that time he would have been taught his obligations

and expected to practice them as a preparatory measure but responsibility for their non-observance arises only at the point of puberty.

MU^oMIN

A true believer who has fully operationalised his beliefs into his daily life and developed his character accordingly, aiming to get as close to the ideal as possible. In terminological sense it signifies one who believes in Allah, and in what He has ordained to be believed in, in the way that He has defined.

MUNKAR

That which is reprehensible in Islam.

MUSAKHKHAR

The condition of being subordinate to, in the service of. The attribute of every created thing within the Universe towards Man.

NAFS - [SELF]

The created inner substance of Man defined by Al Ghazali as being of two kinds. Nafs Rabbāni, the Godly self, and Nafs Shaytani, the evil self. It is this second part that shrouds the innate knowledge within the creation of the human being. Its purposeful, wilful control and subjugation to the first one is the way to remove the shrouds from the innate knowledge and expose it into one's conscious world.

NIYAH

The intention to carry out a specified act. A requirement preceding [AMAL] (action).

Islam demands fulfilment of the requirements of the ethic of intent as preliminary pre-requisite for entering into fulfilment of those of the ethic of action.

PILLARS OF ISLAM, Five.

What holds up the edifice of Islam. They are:

SHAHADA, [creed or literally 'attestation of faith'] in Allah and His Prophet,

SALAT, The five times daily 'worship',

SIYAM, Month long yearly fast,

ZAKAT, The "purifying tax" on a person's wealth, provided this wealth has reached a minimum level.

HAJJ, Once in a life time pilgrimage to Makkah for those who have the means.

QIYAS

Reasoning by analogy practiced by acknowledged jurists of Islam. It forms one of the primary sources of Islam, coming after [QUR'AN], [SUNNAH], and [IJMAH].

QUR'AN

The literal word of Allah, uncreated and co-eternal with Him, dictated to the world through the mouthpiece of a messenger, a chosen one, through Archangel Gabriel. The text is a transcription of an archetype known as the Preserved Tablet, kept in the heavens. It is the Primary source of infallible truth in being His utterance, partaking of His nature and made visible or audible to Man, thus apprehensible by Man. It is also referred to as al-FURQAN, the CRITERION, by which Man is enabled to distinguish right from wrong, lawful from unlawful.

RABB

Literally owner, possessor, lord. Terminologically the Creator.

RASŪL

The Messenger, Prophet Muhammed, may peace be upon him.

RATIONALISM

The movement that came about in the 17th. century whereby a rational elaboration of pure perception was sought by which a new theory of cosmology was propounded that completely ignored a transcendental and metaphysical reality. As a result utility and pragmatic experience was made the corner-stone of social, ethical, economic and political life.

RELIGION

The experience of a reality that is assumed to be ultimate as well as personal, thus making the experience an encounter. The reality experienced however, must be apprehended and understood, expressed and proclaimed, its commandments acquiesced in and responded to with individual and collective action. See also [DIN].

RISĀLAH

The message and the mission of the Prophet, may Allah bless him and grant him peace.

RUBUBIYYAH

The condition of being the possessor, the owner, the lord. An instinct available within man. Terminologically the Lordship of the Creator.

SALAT

It is the major form of worship obligatory upon adult Muslims, wrongly translated as "prayer" though it does contain requests for grace and pardon within its composition. It is an ensemble of interiorized as well as exteriorized actions carried out by Muslims five times during the course of a day the format having been defined and shown by the Prophet, may Allah bless him and grant him peace. It generates a regulatory cycle and rhythm to the working day in a Muslim society with the audible sound of [ADHAN]. Desirably it is done in congregation at specified times of the day but can be performed alone too. In congregation the [IMAM] leads the act standing in front of the believers who line shoulder to shoulder behind him. It includes ablutions before the act, the [NIYAH] (intention) to perform that particular Salat, recitation of a number of verses from the Qur'an and other phrases, and appropriate bodily movements.

SAHABAH

the companions of the Prophet, may peace be upon him. Terminologically any one who had the good fortune of having leaved during the [ASR AS-SAADAH] AND seen the Prophet.

SAWM or SIYAM

A form of worship that lasts for one whole day, including abstinence from food and drink between the hours of daylight which is its main feature. Its observance during the whole month of Ramadan is obligatory upon all adult Muslims.

SHAHADAH (Creed, or literally "attestation of faith")

The verbal witnessing to the absence of any deity but Allah, and the Messengership as well as the servant role of Prophet Muhammad to the

Creator. It is made up of two interlinked statements:

"There is no god but Allah.

Muhammad is the rasul(messenger) of Allah."

Its vocal statement as a conviction forms the point of entry into Islam to anyone.

SHARI'AH

In general it is taken to mean the totality of Islamic law. In particular it is the sum total of laws pertaining to [AMAL], [AKHLAQIYYAT], [IJTIMAIYYAT], and finally The [SYSTEM OF THOUGHT OF ISLAM].

SOURCES OF ISLAMIC LAW

These are defined as being the following:

[QUR'AN]; [SUNNAH]; [IJMA^o]; and [QIYAS]

ṢŪFI(SM)

Wrongly misconstrued in the West (and in large segments of the East) as being a mixture of mystic and ascetic movements seeking after supra-shariah mystical experiences. Its origin is the word sof(wool) denoting the material from which rough clothes of the people considered to be [SUFIs] at the time of Prophet Muhammad, may peace be upon him, was made.

The doctrine of the [SUFIs] is [TAṢAWWUF], which is one of the five sciences making up the [EXHAUSTIVE] sciences in the epistemology of Islam. It has been described as "Abiding with the Injunctions of the Qur'an, following the path of the Prophet and adopting the ethics of the [SAHABAH]".

SUNNAH (lit. a way, method, trodden path)

Prophetic tradition. Model pattern of behaviour for Muslims. It comprises the totality of the acts and pronouncements of the Prophet Muhammad, may Allah bless him and grant him peace, and includes what he agreed to or tacitly tolerated from among pre-Qur'anic customs and practices.

Terminologically [WAHY GHAYRI MATLUV], revelation to Prophet Muhammad, may peace and blessings of Allah be upon him, recitation of which is not an act of worship. It is of three kinds.

Kawliyyah, oral expressions of the Prophet,

FI'iliyyah, physical deeds of the Prophet,

Takririyah, oral or physical acts which, having been observed by the Prophet, tacitly approved by remaining silent.

TAFSIR

Exegesis on the Qur'an,

TA'LIM

The effort to bring to the forefront of one's consciousness the knowledge that is possessed by the soul.

TAMRIN

The development of the habit of usage of the knowledge obtained by [TA'LIM].

TARBIYYAH

Literally being in possession of and able to preserve, protect as well as develop.

Terminologically the totality of the effort that Man goes through in order to realise in his conscious world the knowledge with which his Creator has endowed him at his creation, and to enable his innate capacity, to gain

the familiarity of use and application of the knowledge that he has been made conscious of.

TAŞAWWUF, See [SUFISM]

ṬAWHĪD (the concept of [UNITY])

The belief in the unity and unificity of Allah Almighty. It is the central concept in Islam and is embodied in the affirmation that Allah is One, the absolute, transcendent Creator, the Lord and Master of all things.

AL-TAWRIQ [ARABESQUE]

Elaborate ornamentation in stylized plant forms carried out in a strictly geometrical interlacing design. Considered as the formative basis of Islamic ornamentation/decoration.

Two types has been developed: MUTTASIL (from WASALA, "to connect") known as the CONJUNCT in which motifs occur in an unlimited never ending succession; MUNFASIL (from FASALA, "to divide in sections") known as the DISJUNCT in which motifs occur as a series of self-contained units, each complete in itself, but loosely interwoven with other units to produce a large pattern.

THAQĀFAT AL-IDRAK, See Culture of [COMPREHENSION]

THAQĀFAT AL-IFĀDAH, See Culture of [EXPRESSION]

TRANSCENDENCE

The condition of being of supreme merit and quality, beyond the physical experience of matter. Pertaining to the Godhead.

The transcendence of Allah Almighty may be misconceived or compromised if one is not strict or careful in what is associated with him. In Islam all humans are considered as having an innate endowment of knowing Allah Almighty in His transcendence.

"Praised be He, the Transcendent Who greatly transcends all claims and reports about Him." the Qur'an, 17:43.

‘UBUDIYYAH

The obligation that Man is under towards his Creator, to worship and serve Him as He has defined. Every act of a human being is considered to be an act of worship, and thus should conform to as well as accord with, the wishes of Allah Almighty. Thus eating, sleeping, working are all considered as acts of worship in the sense that they are necessary for the protection and sustenance of human "life" and its continuation in giving service to others in the same process, all conforming to the Divine plan.

UMMAH

Socially, the totality of the World Muslim Community, politically the Nation whose criterion is the [SHAHADAH] and not the genetic accident of birth.

‘UMRAN

The art/science of people cooperating together for the common good of all so as to shape the surface of earth physically as well as institutionally in order to make it more suitable for the sustenance and well-being of human life.

It is wrongly considered as equivalent to [MADANIYYAH], or translated as [CIVILIZATION] similar to [HADĀRAH].

VALUE(s)

Those concepts and ideals which move individuals as well as influencing the collective behaviour of man in transactions of life. In the particular case of Islam these are found in the Qur'an and the Sunnah.

The value system of Islam is immutable and does not accept change with time simply because the nature of man does not change.

WA MĀ TAWFIQĪ ILLA BILLAH ALAYHI TAWAKKALTU WA ILAYHI UNĪB

From the Qur'an, 11:88 "The achievement of my aims depends on Allah alone. In Him do I place my trust, and to Him I always turn".

WAHDAH

The Unit of Studio/workshop amalgamating theory inputs and design teaching into one integrated whole. Term adopted for the Al-Imarah Programme.

WAHY

Revelation from Allah Almighty to His messengers. the QUR'AN is one such revelation in the medium of the Arabic Language as conveyed to Prophet Muhammad, may Allah bless him and grant him peace.

Revelation is achieved;

- a. Through JIBRIL (Archangel Gabriel).
- b. Through True dreams,
- c. Personally, as happened during the occasion of Mirāj

It is of two kinds, matlūv and ghayri matlūv.

WAHY MATLUV

The revelation the recitation of which is in itself an act of worship. This is the Qur'an and is composed of those conveyed only through Jibril.

WAHY GHAYRI MATLUV

The revelation which has been specifically ordered not to be included within the Qur'an. This is also known as the [SUNNAH] of the Prophet, may peace and blessing of Allah be upon him.

WĀJIB

Incumbent upon Muslims.

WAQF (pl. AWQAF)

Foundation/endowment in Islam. It has significant connotations as a religious institution.

WESTERNISATION

Acts resorted to by individuals or the political authority in developing countries in order to re-shape the physical order of a society to conform to that existing in the West.

WORLD-VIEW, (weltanschauung)

A conception of the course of historical events and the purpose of the world as a whole forming a philosophical view of the universe.

ZĀHIR

The plain, self-evident, visible, exteriorized acts. Judgement is made with the zāhir, but in the system of thought of Islam it is to be subjected to bātin.

ZAKAT

A form of worship for the well-off, wrongly translated as "alms-giving". It is done annually as a kind of purification of one's wealth if these are exceeding a fixed limit. It is calculated according to a system that differs for cash, gold, silver or agricultural crops, commercial capital, profits from various concerns during the course of the preceeding year. It has to be distributed amongst any of eight specified categories of people in person, who are considered as the beneficiaries of Zakat, and cannot be spent on corporate or public benefit.

APPENDIX SEVEN

BIBLIOGRAPHY

The following bibliography lists all the unpublished and published sources cited in the text.

A- BOOKS AND ARTICLES

- ABDULLAH, Abdulrahman Salih. Educational Theory - A Qur'anic Outlook, Makkah: Umm al Qur'a University, 1982.
- ABEL, Cris. 'Regional Transformation' in Peter Davey, Ed. The Architectural Review, (Nov. 1986), 37-43.
- ABRAMS, Charles. Mans Struggle for Shelter in an Urbanizing World, Cambridge, Mass.: M.I.T. Press, 1964.
- AHMAD, Khurshid Ahmad (Ed.), Islam: It's Meaning and Message, London: Islamic Council of Europe, 1975.
- ALBERTI, Leon Batista. De Re Aedificatoria written around 1450. Translated into English as the 'Ten Books on Architecture' by James Leoni in 1729. Re-issued in London in 1955 with notes by Joseph Rykwert.
- ALLSOPP, Bruce. A Modern Theory of Architecture, London, Henley & Boston: Routledge & Kegan Paul, 1977.
- ANONYMOUS. 'Muslim Education', The Times Educational Supplement, (1.4.1977), 9-10
- ANTONIQU, Jim 'Modernity and Tradition in Islamic Architecture', Middle East Construction, (August 1983), 14-15),
- ARDALAN, Nader and BAKHTIYAR, Laleh. The Sense of Unity - The Sufi Tradition in Persian Architecture, Chicago and London: The University of Chicago Press, 1979.
- ARDALAN, Nadir. 'Architects in America-Design for Islamic Cultures', Arts and the Islamic World, (Autumn, 1985), 46-50.
- ARNAUD, L. 'How Architecture is Being Taught', A.I.A. Journal, (April 1948), 145-149.
- ATTAS, Al, S. M. N. (ed.). Aims and Objectives of Islamic Education, London: Hodder and Stoughton, 1979.
- The Concept of Education in Islam, Kuala Lumpur: ABIM, 1980.

- AZZAM, Salem (Ed.), Islam and Contemporary Society, London: Longman, 1982.
- BA KADER, Abou Bakr et all. Islamic Principles for the Conservation of the Natural Environment, Gland-Switzerland:International Union for Conservation of Nature and Natural Resources,1983, No.20,IUNC Environmental Policy and Law Papers.
- BA-YUNUS, Ilyas and AHMAD, Farid. Islamic Sociology: An Introduction, Cambridge: The Islamic Academy/Hodder and Stoughton, 1985.
- BAKHTIAR, Laleh. Sufi - Expressions of the Mystic Quest, London: Thames and Hudson, 1979.
- BANISTER, T.S. (ed.), The Architect at mid-century: Evolution and Achievement, New York: Reinhold Publishing corp., 1954.
- BATESON, Gregory. Steps to an Ecology of Mind, New York: Paladin, 1973.
- BECKTEL INCORPORATED. The Jubail City Industrial Community Plan,by THE SAUDI ARABIAN BECKTEL CO., Management Consultants to the Royal Commission for the Jubail Industrial Complex, 1978 AD - 1399 AH.
- BEINART, Julian. 'Analysis of the Content of Design', Architecture Education Study,op. cit., Vol. I, 3-158.
- , 'Structure of the Content of the Design', Architecture Education Study, Vol. I, 159-338.
- BENEVOLO, Leonardo. History of Modern Architecture, Cambridge, Mass.: The M.I.T. Press, 1977
- BILGRAMI, H. H. and ASHRAF, S. A. The Concept of an Islamic University Cambridge: Hodder and Stroughton, 1985
- BLOOR, David Bloor, Knowledge and Social Imagery, London: Routledge and Kegan Paul, 1976.
- BORA, Cemal. 'Ilk Turk Mimarlik Okulu', Guven Birkan (Ed.), Mimarlik, (Jan. 1978), 14-15.
- BORING, Wm. A. 'Architectural Education in the Past', Proceedings, International Congress on Architectural Education- London, 28 July - 2August 1924 London: RIBA, 1925.
- BROADBENT, Geoffrey. 'Meaning in the Islamic Environment', GERMEN Aydin (ed.) Islamic Architecture and Urbanism, Dammam:King Faisal University, 1983,
- BRONLIN, Brent C. The Failure of Modern Architecture, New York: Van Nostrand Reinhold Co., 1976.
- BURCKHARDT, Titus. Art of Islam, London: World of Islam Festival Trust, 1976.
- , Sacred Art in East and West, (Bedford: Perennial Books, 1967).
- CAIRO UNIVERSITY, Faculty of Engineering - Courses of Study Leading to a Bachelor Degree in Architectural Engineering, Cairo: Cairo University Press, 1974.

- CETINDAS, Sedat. 'Sanayi Nefise Mektebi Alisi ve Guzel Sanatlar Akademisi', Mimarlik, (Jan. 1977).
- COBB, Henry. 'Architecture and University', in Architectural Record, (September 1985), 43-50,
- COLLINS, P. 'Architectural Education Two Hundred Years Ago', R.I.B.A. Journal, Vol. 62, No.6, April 1955, 260-274.
- COLLINS, Peter. 'The eighteenth Century Origin of Our System of Full-Time Architectural Schooling', Journal of Architectural Education, 33, No.2 (November 1979), 2-6,
- COTGRAVE, Stephen. Catastrophe or Cornucopia: The Environment, Politics and the Future, Chichester: Wiley, 1982.
- CRAGG, K, The Privilege of Man: A theme in Judaism, Islam and Christianity, London: The Athlone Press, 1968.
- CROSBY, Theo. 'Patrons of the Arts', Architects Journal, (18 January 1974), 24-27.
- CROSS, K. Patricia. 'Occupations and Excellence', Dialogue, Washington: United States Informations Agency, No. 27 (April-June 1975), 40-49.
- DAVEY, Peter. 'Pugin Pointed the Way', Architectural Review, May 1984 20-23.
- DERBY, Michael. The Islamic Perspective - An aspect of the British Architecture and Design in the Nineteenth Century. London: World of Islam Festival Trust, 1983.
- DIEZ, Ernst. 'A Stylistic Analysis of Islamic Art', Ars Islamica, Ann Arbor: Univ. of Michigan, vol. iii pt.2 (1936), 201-212.
- 'A Stylistic Analysis of Islamic Art', Ars Islamica, Ann Arbor: Univ. of Michigan, vol. v pt. 1, 36-45
- DODYE, B. Muslim Education in Medieval Times, Washington: The Middle East Institute, 1962.
- DUNCAN, Alistair. 'The World of Islam Festival Trust', New Horizon, no. 334 (January 1987)
- ELDEM, Sedat. 'Elli Yillik Cumhuriyet Mimarligi', Mimarlik (Nov.-Dec. 1973), 5-11,
- ERLACH, von, Johann B. Fischer. Entwurf Einer Historischen Architectur. first published in 1725 and translated into English in 1730 and again 1737.
- ESHERICK, Joseph. 'The Profession of Architecture', Journal of Architectural Education, (Fall 1984), 26-29.
- ETTINGHAUSEN, Richard. 'The Man-made Setting', in Bernard Lewin, (ed.), The World of Islam, London: Thames and Hudson, 1976.
- EVIN, Ahmed. (Ed), Architecture Education in the Islamic World, Proceedings of the Tenth Seminar, Aga Khan Award for Architecture. 1986

- Al FĀRŪQĪ, Isma'īl Rājī. Divine Transcendence and Its Expression, (Kuala Lumpur: ABIM, 1403-1983).
- . 'Islam and Art', Studia Islamica, Fasc. xxxvii,
- . Islam and Culture, (Kuala Lumpur: ABIM, 1980)
- . 'Islamizing the Social Sciences,' Studies in Islam, vol.16, no.2.
- . Islamization of Knowledge: General Principles and Work Plan, Washington: International Institute of Islamic Thought, 1982.
- . 'Misconceptions of the Nature of the Work of Art in Islam', Islam and Modern Age, vol. 1, No. 1. (May 1970) pp. 29-49.
- . 'On the Nature of the Work of Art in Islam', Islam and Modern Age, vol. 1, No. 2. (August 1970).
- ., Tawhid: The Implications For Thought and Life, Washington: International Institute of Islamic Thought, 1982.
- . Toward Islamic English, Ann Arbor: New Era Publications, 1986.
- (Ed.), Triologue of the Abrahamic Faiths, (Washington: International Institute of Islamic Thought, 1982)
- FLETCHER, Sir Banister (Revised by J. C. Palmer) Sir Banister Fletcher's A History of Architecture, New York: Charles Scribners's Sons, 1975.
- FRANKL, Paul. Gothic Architecture - Pelican History of Art, London: Penguin Books, 1962.
- GARAUDY, Roger. 'The Balance Sheet of Western Philosophy in This Century', The American Journal of Islamic Social Sciences, vol. 2 no. 2, (December 1985).
- GEERTZ, Clifford. The Interpretation of Cultures - Selected Essays, New York: Basic Books Inc., 1973.
- GERMEN, Aydin. (ed.) Islamic Architecture and Urbanism, Dammam: King Faisal University, 1983,
- Al GHAZALI. The Book of Knowledge, translated by Nabih Amin Faris, Lahore: Ashraf, 1963.
- GIBB, H. A. R. Islam - A Historical Survey, Oxford: O.U.P. 1986
- GIEDION, Sigfried. Space, Time and Architecture - The Growth of a New Tradition, Cambridge, Massachusetts: Harvard University Press, 1978
- GLANCY, Jonathan. 'Pugin Reunion', Architectural Review, (Nov. 1984), p. 58-63.
- GRABAR, Oleg. 'Architecture and Art', John R. Hayes, (ed.), The Genius of Arab Civilization - Source of Renaissance, Cambridge, Massachusetts: The MIT Press, 1978.

- . 'From Utopia to Paradigms', Mimar-Architecture in Development, No.18 (Oct-Dec 1985).
- (Ed.), Mugarnas - An Annual on Islamic Art and Architecture Newhaven and London: Yale University Press,1983. 1-14.
- . 'Reflections on the Study of Islamic Art', in Oleg Grabar, (Ed.), Mugarnas, op. cit., 1-14.
- GROPIUS, Walter. 'The Bauhaus' in Dr. Stephen Trombley (Ed.) Architectural Education 1 London: RIBA Magazines Ltd., 1983) 53-79 The article is an abridged version of Gropius's essay of 1923.
- GRUBE, Ernst J. 'What is Islamic Architecture?', George Michell, (ed.), Architecture of the Islamic World, New York: William Morrow and Co. Inc., 1978
- von GRUNEBAUM, Gustav. Modern Islam: The Search for Cultural Identity, Berkley: University of California Press, 1962.
- HABRAKEN, N. J. and DLUHOSCH, Eric. 'The role of Industrial Production in the Low-Income Sector of Egypt', Aydin Germen (ed.) Islamic Architecture. op. cit.,
- Haidar, Gulzar. 'Habitat and Values in Islam: A Conceptual Formulation of an Islamic City', SARDAR, Ziauddin (ed.), The Touch of Midas, Manchester University Press, 1984, 170-208.
- HAKIM, Besim Selim. Arabic-Islamic Cities, Building and Planning Principles, London, New York, Sydney and Henley: KPI, 1986.
- HANDLER, B. Systems Approach to Architecture, New York: American Elsevier Publication Co. Inc., 1978.
- HARDY, and SATTERTHWAITE. Shelter: Need and Response, New York: Wiley, 1981
- HARVARD GRADUATE SCHOOL OF DESIGN, Design Courses at Schools of Architecture in Western Europe - A Documentary Study, Cambridge 1975.
- HAYES, C. J. H. and Hanscom, J. H. Ancient Civilizations, London: Collier Macmillan Publishers, 1968.
- HOAG, John. Western Islamic Architecture, London: Prentice-Hall International, 1963.
- HOAG, John D. Islamic Architecture, New York: Harry N. Abrams, Inc., 1977.
- HOLOD, Renata. (ed.), Architectural Transformation in the Islamic World, Proceedings of Seminar One, held at Aiglemont, Gouvieux, France, April 1978.
- HOLOD, Renata and EVIN, Ahmed. Modern Turkish Architecture, University of Pennsylvania Press, 1984.
- HUME, David. Treatise on Human Nature, Oxford: Selby Bigge edition, 1906.
- HURT, Steven. 'The Design Studio - Another Opinion in Defence of the Obvious and Not So Obvious' in Architectural Record, (January 1985), 49-55.

- HUSSEIN, S. and Ashraf, S., Crisis in Muslim Education. (London: Hodder and Stoughton & King Abdulaziz University, Jeddah, 1979).
- IBN KHALDUN, Muqaddimah - An Introduction to History, (Princeton, N. J.: Princeton University Press, 1958), translated from the Arabic by Franz Rosenthal.
- INTERNATIONAL ISLAMIC UNIVERSITY, Handbook 1984/85, Kuala Lumpur.
- IQBAL, Sir Mohammad. The Reconstruction of Religious Thought in Islam, (Lahore: Ashraf, 1982).
- JENKS, Charles. Modern Movements in Architecture, 2nd edition, Harmondsworth: Penguin Books Ltd., 1985.
- KARIM, Al Haj Maulana Fazal-ul. Imam Ghazali's Ihya-Ulum al-Din, Lahor: Book House, 1963.
- KHUN, T. S. The Structure of Scientific Revolution, Chicago: Chicago University Press, 1962.
- KIPLING, J. L. 'Indian Architecture of Today' in Journal of Indian Art, Vol. 1 No. 3. Quoted in MUMTAZ K. K. Architecture in Pakistan, op. cit.
- LAZSLO Ervin 'The Obsolescence of Modernism', in Frank Feathers (ed.), Through the '80s: Thinking Globally, Acting Locally, Washington: World Future Society, 1980.
- LESNIKOWSKY, Wojciech G. Rationalism and Romanticism in Architecture, New York: McGraw Hill, 1982
- LEVY, Alan. 'Total Studio', Journal of Architectural Education, 34, N.2 (winter 1980), 29-32.
- LEWCOCK, Ronald. 'Architects, Craftsmen and Builders: Materials and Techniques' in George Mitchell (Ed.) Architecture of the Islamic World, op. cit. 112-143.
- LITTMAN, Elliot and MAYO, James. 'Political Knowledge and the Architectural Studio', Journal of Architectural Education 34, No.3 (Spring 1981) 24-28.
- LLEWELLYN, Othman B. 'Desert Reclamation and Islamic Law', The Muslim Scientist (1982)
 ----- 9-30. 'Shariah-values Pertaining to Landscape Planning and Design' in Aydin Germen (ed.), op. cit., 31-42.
- LLEWELLYN-DAVIES, R. 'The Education of an Architect', The Architects Journal, (10 Nov. 1960), 708-711.
- LOUW, H.J. (ed.). Architectural Education in Europe and the Third World - Parallels and Contradictions, Proceedings of the 8th. International Forum of EAAE, (Newcastle upon Tyne: EAAE/AEEA, 1983).
- LYNCH, Kevin. A Theory of Good City Form, Cambridge, Mass.: The M.I.T. Press, 1981
- LYNN, White, Jr. 'The Historical Roots of Our Ecological Crisis', David and Eileen Spring, (Eds.) Ecology and Religion in History, New York: 1974, 15-31.

- MANSUR, Pervaz. 'Environment and Values: The Islamic Perspective' in Sardar (Ed.), The Touch of Midas, Manchester: Manchester University Press, 1984, pp.150-169.
- A1 MAUDUDI, Abul A'la. The Meaning of the Qur'an, (Lahore: Islamic Publications Ltd., 1974) Vol. I,
- MAXWELL, Robert. 'The Two Theories of Architecture', in Architectural Education 1, (London: RIBA Magazines Ltd., 1983), 113-124.
- MIDDLETON, Robin. 'Introduction', A.D. Profiles 17-The Beaux Arts.
- MORRIS, William. 'The Prospects of Architecture in Civilization', lecture given at the London Institution, 10 March 1881, in On Art and Socialism, London, 1947, p. 245.
- MUMTAZ, K. K. Architecture in Pakistan, Singapore: Mimar, 1985.
- N.C.A.R.B., Examination Validation Study, 1981.
- NAKOSTEEN, Mehdi. History of Islamic Origins of Western Education, AD 800-1300, Boulder: University of Colorado Press, 1964.
- NAQVI, Syed Nawab Haider. Ethics and Economics - An Islamic Synthesis, Leicester: The Islamic Foundation, 1981/1401.
- NASR, Seyyed Hossein. The Encounter of Man and Nature, London: Allen and Unwin, 1968.
- , Ideals and Realities of Islam, London: George Allen & Unwin Ltd., 1960.
- , Islam and the Plight of Modern Man, London: Longman, 1975.
- NORBERG-SCHULTZ, Christian. Existence, Space and Architecture, New York, Washington: Praeger Publishers, 1971.
- , Intentions in Architecture, London: Allen and Unwin, 1963.
- NUTTGENS, Patrick. The Landscape of Ideas, London: Faber and Faber Ltd., 1972.
- O'MEARA, Timothy. 'The Notre Dame Long-Range Plan', in New Directions for Higher Education, No. 47, (September 1984), 84-97.
- OZKAN, Suha. 'An overview of Architecture Education in Islamic Countries', Ahmed Evin (Ed.), Architecture Education in the Islamic World, The Aga Khan Award for Architecture, 1986.
- PAMIR, Haluk. 'Architectural Education in Turkey in its Social Context: Underlying concepts and Changes', Ahmed Evin (Ed.) Architecture Education in the Islamic World, op. cit., 132-151.
- PANOFSKY, Erwin. Gothic Architecture and Scholasticism, London: Thames and Hudson, 1957.
- PAPADOPOULOU, Alexandre. Islam and Muslim Art, New York: Harry N. Abrams, Inc., 1979.

- PARETTI, Luigi et. al. History of Mankind, Vol. II-The Ancient World, (London: George Allen and Unwin Ltd., 1965) p. 530.
- PEHLIVANLI, Selcuk. 'Mimar Arif Hikmet Koyunoglu ile Bir Soylesi', MIMARLIK, Year 15 No. 144, (Jan. 1977), 8-16.
- PETRUCCIOLI, Attilio (editor), Environmental Design-Journal of The Islamic Environmental Design Research Centre, Rome (No date given but presumably in 1984).
- PEVSNER, N. An Outline of European Architecture, London: 1963.
- PORTER, William L. and KILBRIDGE, Maurice. (Co-Directors) Architecture Education Study, Volume I: The Papers; Volume II: Case Studies.
- QUTB, Sayyid. In the Shade of the Qur'an - Vol.30, (London: MWH London Publishers, 1979) pp. 213-214.
- R.I.B.A. Guidance Notes and Regulations, (London: RIBA Publications Ltd., December 1975-Revision amended January 1983).
- RAPOPORT, Amos. 'Architectural Education', Architectural Record, (October 1984), 100-103.
- R.I.B.A. Guidance Notes and Regulations, London: RIBA Publications Ltd., 1975 (revised 1983).
- RISEBERO, Bill. Modern Architecture and Design - An Alternate History, Cambridge: M.I.T. Press, 1983.
- RITTER, Paul. Educreation - Education for Creation Growth and Change, Oxford: Pergamon Press, 1966.
- ROMIENIEE, Edward J. Architectural Education: 1990 - A Goal Study for Architectural Education in Texas Through 1990, (April 15, 1968) Available in RIBA Library.
- ROSENTHAL, Franz. 'Muslim Definitions of Knowledge' in Carl Leiden (ed.), Conflict of Traditionalism and Modernity in the Muslim Middle East, (Austin, Texas: University of Texas, 1966).
- SARDAR, Ziauddin. Islamic Futures, (London and New York: Mansell Publishing Ltd., 1985).
- (ed.), The Touch of Midas, Manchester University Press, 1984,
- 'What Makes a University 'Islamic'?', Inquiry, vol. 3, No. 4 (April 1986) 39-44,
- SCERRATO, Umberto. Monuments of Civilization, Islam, New York: Grosset & Dunlop, 1976.
- SCHACHT, Joseph. An Introduction to Islamic Law, (Oxford: Clarendon Press, 1984)
- SCHMERTZ, Milfred F. 'Search for Meaning in the Architecture of Islam', Architectural Record, no. 8 (August 1980), 86-89.
- 'Architecture', Architectural Record, (March 1979), pp. 81-88.

- SEELING, Michae and Julie, 'On Flies, bees, and the Architectural Studio, Architectural Record, (March 1985) pp. 51-53.
- SCHANK, R. C. 'Understanding Natural Meaning Language Meaning Intention', in F. Papp and G. Szepp (Ed.) Papers in Computational Linguistics, Proceedings of the 3rd. International Meeting on Computational Linguistics held at Debrecen, Hungary, 1976.
- SHISHKIN, N. S. The Teaching of Social Sciences in Higher Technical Education, Paris: UNESCO, 1968.
- SPENCER, Herbert. Education, London: Watts & Co., 1945
- STRINGER, P. ,The Myths of Architectural Creativity', Architectural Design, (Oct. 1975), 63-63.
- TEYMUR, Necdet. 'Architectural education in a divided world' in Stephen Trombley (ed.), Architectural Education 2, London: RIBA Magazines, 1983, 84-93.
- TROMBLEY, Stephen (ed.), Architectural Education 2, London: RIBA Publications Ltd., 1983.
- ULGENER, Sabri, Islam Tasavvuf ve Cozulme Devri Ahlaki, Istanbul: Der Yayinlari, 1981.
- UMM AL QURA UNIVERSITY, Kingdom of Saudi Arabia, Ministry of Higher Education, World Centre for Islamic Education, Recommendations of the Four World Conferences on Islamic Education, Makkah: World Centre for Islamic Education, 1403/1983.
- WATKIN, David. Morality and Architecture, Chicago and London: The University of Chicago Press, 1977.
- . The Rise of Architectural History, London: Architectural Press, 1980.
- WATT, Montgomery. 'The Contemporary Political Relevance of the Religion of Islam', Scottish Journal of Religious Studies, vol. 1, no. 2, 93-98.
- WEBER, Max Wirtschaftsgeschichte, 1923, translated into English by Frank H. Knight as General Economic History, Glencoe, Illinois: Free Press, 1950
- . The Theory of Social and Economic Organization Tr. by Talcott Parsons.
- WILFORD, Michael. 'Urban Encyclopedia', Architectural Review, CLXXXI No. 1079, (January, 1987), 8-9.
- ZAID, Al, A. M. Education in Saudi Arabia - A Model with a difference, Jeddah: Tihama Publications, 1401/1981.
- ZELINSKY, Wilbur. The Cultural Geography of the United States, (New Jersey: Prentice Hall, 1973), pp. 60.

- ATESHIN, H. M. 'School of Al-^cImārah, Umm al-Qura University, Makkah al-Mukarramah, Structure and Programme'. Unpublished final report submitted to the University authorities, Ramadhan 1403/1983.
- Towards the Establishment of a School of Islamic Architecture (Jeddah, Rajab 1403), Unpublished draft report submitted to Umm al-Qur'a University and discussed by its Select Panel of Experts on 2 May 1983.
- ATESHIN, H. M., CEBECI, N. EYUCE, A. 'Concepts and Concerns for the Training of Designers of the Islamic-Built Environment, presented at The Conference on the Preservation of Cultural Heritage of Islamic Cities held at Istanbul in April 1985.
- AZDZ, A. Architecture Education, (Unpublished Ph.D. Dissertation, Texas A.M., 1977).
- BERKOZ, Sina Berkoz, 'A Model for Systematization of Teaching and Research Areas in Architecture', unpublished paper presented at the First Saudi Engineers Conference, held at King Abdulaziz University - Jeddah on Shaban 1403/May 1983.
- BEYRU, Rauf. 'Analytical Comparison of Architectural Education at the Saudi Arabian Universities', unpublished report presented to the Fourth Bi-annual Meeting of the Schools of Environmental Design Professions in Saudi Arabia at Dammam, on April 1984.
- BOKHARIE, A. Jeddah: A Study in Urban Formation, unpublished Ph.D dissertation, University of Pennsylvania, 1978.
- BURGESS, H. AND ACKERNECHT, D. 'Environmental Design Education in Saudi Arabia: An Assessment of Manpower Needs and Programme Development', unpublished paper presented at the Second Saudi Engineers Conference, 1985, Dhahran.
- CANSEVER, Turgut. 'What is Islamic Architecture. How Can We Recognize and Develop the Architecture of Islam', in Towards the Establishment of a School of Islamic Architecture (Jeddah, Rajab 1403), Appendix F. (Unpublished report submitted to Umm al Qur'a University and discussed by its Select Panel of Experts on 2 May 1983.
- FADAN, Y. M. O. The Development of Contemporary Housing in Saudi Arabia (1950-1983), Unpublished Ph. D. dissertation, M.I.T., 1983.
- HATHLOUL, Al, S. Tradition, Continuity and Change in the Physical Environment: The Arab-Muslim City, unpublished Ph. D dissertation, M.I.T., 1981.
- MINISTRY OF EDUCATION - KINGDOM OF SAUDI ARABIA. New Secondary School Curriculum promulgated by the Council of Minister's Decision No. 85 dated 11.3.1405 (
- MUKRIN, Zamil A. and GABRIEL, P. 'Environmental Design Education in Saudi Arabia, the UPM Experience', unpublished paper delivered at the First Saudi Engineers Conference May 1983, Jeddah.
- SUHAMI, Ariffin. 'The Role of International Islamic University in the Development of Islamic Education System - The Philosophical Basis'. An

unpublished paper presented at the International Conference on Islam and Technology' held at Kuala Lumpur organised by Universiti Teknologi Malaysia, on the occasion of its tenth anniversary in 1982.

TRABZONI, M.R. Development of Human Resources Through the Application of the Concept of the Public Comprehensive Community College to Saudi Arabia', unpublished Ph. D. Thesis, University of Arkansas, 1993.

C- DICTIONARIES

The Oxford English Dictionary, Vol. 1 A-B, (Oxford: Clarendon Press, 1978).

Arabic dictionaries that were resorted to are:

Butros al Bustani, Muhit-al-Muhit (Beirut: Maktabat LUBNAN, 1977)

Ibrahim Mustafa and others, Al-Mu'ajam-al-Wasit (Cairo: Majmua-al Lughah-al-'Arabiyyah, 1961), pp. 632, 633.

A specialised English dictionary on the topic is one by John Penrice, A Dictionary and Glossary of the Kor'an, (Lahore: Biruni, 1976). First published in London in 1873. pp 101.

IBRAHIM, M. I. Mu'jam al-Alfaz wa-l a'lam al-Qur'aniyyah, Cairo: Dar al Fikr al-'Arabi 1388/1968.

A more readily available dictionary is: Elias' Modern Dictionary,

Arabic into English, (Cairo: Elias Modern Press, 1972)