Comments

Chadirji

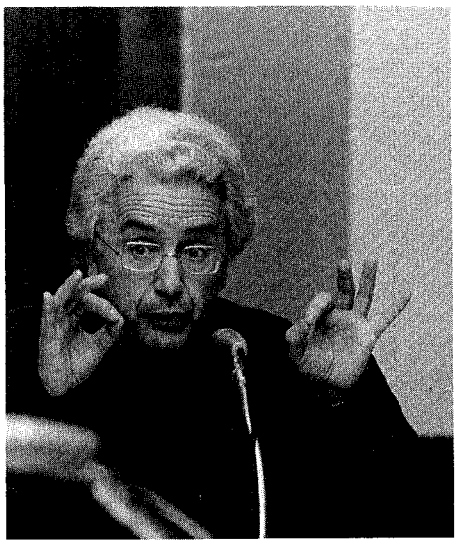
Professor Arkoun has stated that in our everyday life we are becoming more and more secular, a natural development of the twentieth century; yet, intellectually, we seem to be living in the Middle Ages. In terms of architecture, we are still looking at it in the same way we look at Islam, that is, in terms of religion. 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, for then we can also speak of "Christian" or "Hindu" architecture.

There are those who speak of the modern architecture of our part of the world as a product of new ideologies and as being strongly influenced by what is considered to be a search for unity. Personally, I do not believe there is such a thing as unity. When I design, I design for a secular purpose and derive inspiration from the forms that surround me, a tradition that I would like to live with and see continue. It is not because of some belief that I create, but rather to preserve my identity and individual character within the context of international cultural development; nor is it with the intent of rejecting internationalism that I design, but rather with a view to contributing towards it by enriching it with variety and colour.

Arkoun

I agree totally with Mr Chadirji. We really should not use in our discussions here, and in the activities of the Award the word "Islam" or "Islamic" when referring to culture. This leads to misinterpretations and, in the ideological/political trends of today's Muslim world, it can even be extremely dangerous and result in unfortunate consequences. The main reason for this is that such a presentation of Islam is totally divorced from historical truth.

What exists in our societies *today* and what are the actual forces governing them? To



answer these questions we must not speak of "Islamic culture" or "Islamic architecture" because these concepts are too wide and are therefore impossible to define. What we should rather ask is what is going on in Morocco, or Algeria, or Iraq, or any other Islamic society. Nobody would think of presenting the architecture of Western societies such as that of, for example, Germany, France or England, by describing some specific characteristic of a church or palace built there. Nobody would do this. Then why do we do this when speaking of Islamic architecture?

The basis for historical masterpieces that were produced in the classical age of Islam no longer exists today because the culture behind them no longer exists. We must therefore look to the Muslim societies of *today* for our answers and solutions in order to understand the nature of our task.

Diba

The architectural concepts which govern today's modern architecture were possible because of a well-defined Western civilisation that was formulated by the industrial revolution, a soaring economy, scientific discoveries, philosophers and writers. This permitted the development of well-defined architectural programmes as we know them today in the major architectural schools of Western countries.

What we need in the Islamic countries is a precise definition of concepts taken from the Qur'an to guide us in our architecture. Without such an analysis and understanding of the Qur'an, architectural production in Islamic countries risks falling prey to chaos which can result in a hybrid architecture of bad quality, representing only a caricature of Islam devoid of spiritual precepts. This is an urgent problem facing architecture schools and their students: to formulate precepts and concepts based on our own civilisation and culture in order to find the means and the proper guidelines for teaching and creating architecture for our environment.

Saad

With reference to the statement made by Professor Diba, I must express my deep concern about the way in which many architects look for architectural recipes in the Holy Books. There is a vast difference, I'm afraid, between the Holy Books and cookery books! We desperately need to redefine the culture to which we belong, and thereby be able to identify the architecture which should be taught to our students.

Abdelhalim

Professor Arkoun identified two distinct points in the development of Islamic thought which he considers to be crucial for understanding the obstacles facing Islamic thought and culture. The first is the suppression of rationalism by forbidding the works of ibn-Rushd on the autonomy of reason; and the second, the rupture that took place in Islamic culture as a result of the impact of modernity. He also suggested that no works of intellectual value can be traced between the first and the second. Hence, the task of rethinking architectural education in the Isla-

mic world will be confronted with this problem. The only intellectual discourse that has been permitted since the suppression of the autonomy of reason is politically motivated with no real value for the task at hand.

With regard to the first point, I tend to agree with Professor Arkoun. However, I would like to suggest that philosophical texts are not the only means of recording the intellectual development of a given culture. Buildings, artifacts and all other tangible forms of intellectual expression can also be considered equally valid "texts" embodying an explicit or implicit record of a particular period in the creative development of that culture. I am convinced that through a systematic analysis of Islamic buildings we could formulate a discourse, or any number of discourses tracing the intellectual development of Islamic history. The soul of Islamic culture is embodied more in its buildings than in other of its creative forms of expression.

As for the second point with regard to the rupture in Islamic thought caused by modernity, it seems to me that we will not necessarily find solutions to our problems by simply adopting a modern way of thinking. On the contrary, it is more important to identify a new mode of thinking which will not only get us out of our problems caused by the rupture but, hopefully, solve the very problems of modernity itself. This, I believe, to be important, and possible. The answer perhaps lies in reinvigorating the spirit of the autonomy of reason, yet within the confines of Islam.

Makiya

It seems to me that we ought to try to put emphasis not mainly on *what* and *why* of Islamic architecture but on *how* to train architects for building in Islamic environments. Curricula are crucially important and their design should take into account the need to cultivate a sense of and aptitude for the appreciation of a cultural environment. The future architect should understand the heritage of the past so that he would not mindlessly copy but try to compete with examples of that heritage. Moreover, schools also need to create the right atmosphere for the understanding and discrimination of social and ethical values, for what they provide is the basis for undertaking practice after graduation. It is necessary to impart a purified vision of architecture so that practice can be pursued with a clear grasp of purpose.

Kostof

I would like to address some of the issues that Mr Chadirji and Professor Arkoun spoke of. None of the societies of the Holy Book have anything to contribute to architecture. In fact, monotheistic religions begin with an enmity of architecture, especially monumental architecture. It is part of their baggage to deny an architectural tradition because in it is embedded the values they want to replace. The first notion of a church in the Christian tradition is a place and a community of people without an architecture. The word *ekklesia* refers to a community of people, not to a building. Therefore, we should not rely in our discussions on support for an architectural tradition from the Holy Books themselves. They are predicated on something quite different. It is only when the religion has survived the initial generation or two does it realise that one cannot have a universal impact without having a construct, a building of some sort. It is then that the mosque develops as a building type. In the beginning, any building or open space would serve because, as in the case of Christianity, the community was important, not the structure.

My second point is about this notion of Islamic architecture. I cannot tell you how much I agree when it is said that there is no such thing as Islamic architecture, if it is understood to be a prescriptive description for some kind of stylistic entities or formal evidence. Islamic architecture indeed exists if we understand it as being the entire spectrum of buildings in the entire world of Islam produced over a number of centuries: that is, Islamic architecture, as a broad term, used, if we must, in the same way as one could refer to Christian architecture. What the West did, I think, was to begin the process of discrimination very early. Islam refuses to do that. We used to refer to a Christian architecture, and that was five hundred years ago. Then we began to discriminate and speak of a medieval architecture, and then of classical, Gothic, Romanesque and so forth. The process of discrimination means that we begin to recognise the wealth of the tradition produced and to realise that there is a certain cohesion which may come from *regional* identification rather than from one's religion. In other words, to carry on endlessly about the imperial courtyard house as being characteristic of Islam is to ignore the fact that this house was also typical in ancient Mesopotamia and Assyria. We are impoverishing the discussion if "Islamic" is understood to be some kind of a universal term referring to a style.

De la Hoz

Both the teaching and practice of architecture are based on an alternative method provided by technology and art. The final result is architectural creativity, an important cultural expression. The teaching of Islamic architecture shares the difficulties inherent in the teaching of any architecture. In addition, since it involves a culture different from European cultures, the ones called "modern", the teaching of *modern* Islamic architecture entails adding a new element of complexity.

Islamic culture, that of the believers who subject themselves to a superior order, represents a biological approach to human existence, whereas European culture is basically rationalist. Both of these distinct philosophies, cultures or different readings of the universe encountered each other, for the first time, in Andalusia, a millenium ago. As an Andalusian, I know how impossible it is to integrate them into a single culture, just

as water and oil do not mix The Spanish spirit suffers and benefits creatively from this on-going struggle. In my understanding the teaching of modern Islamic architecture must accept this fact and not try to find a simplification that impoverishes both cultures The goal will be to train new architects whose hearts vibrate to a rhythm dictated by their brains

Gonzalez-Valcarcel

The subject of the training of Islamic architects should be focussed, on studying in depth the Islamic architecture of the past, the actual "architecture without architects" which is found nowadays, not on trying to create an Islamic architecture completely opposed to the examples of architecture from the colonial periods.

As a Spanish architect who for many years has taken care of Toledo, a town that is exemplary for its integration of various cultures and religions, and which accomplished, through its famous school of translators, the noble mission of transmitting the advanced culture of the Caliphate of Cordoba in the dark ages of medieval Europe, I have been able to see how the Islamic way of life, which, from my point of view, was an integration of various classical cultures from the ancient world, persists in the city life of Toledo.

I think that the revival of Islamic architecture and urbanism should be based on two critical studies On the one hand, one should study the past Islamic culture in its most developed era, and, on the other hand, one should study the vernacular architecture, so full of wisdom and intuition. These must be pursued with socio-economic studies and religious and political ones, not forgetting modern technology and the actual way to conceive urbanism. In addition, one must not forget Western architecture From these critical studies should emerge a synthesis that could offer the best way to define the identity of the present and future Islamic world in terms of its own cultural tradition.

H. Pamir

My question is addressed to Professor Arkoun who could perhaps explain what kind of a social system model he is referring to. Instead of explaining social relationships in historical terms, I think an analytical approach would be more appropriate in which the interrelationships among religion, education, architecture, would be defined

As to whether Western societies are secularised, it is my belief that they are not. There is a high culture and a low culture, or popular culture, which has become more secularised Professor Arkoun's discussion of modernity is really based on everyday social relationships and I do not think Western societies are secularised in those terms. For example, we can see the influence of Christianity in the planning of parks, city planning and everyday business relations Also in Turkey, for instance, which is considered to be a secularised state, people are returning to a style of life that is rooted in Islam. So this question of secularisation is really not all that simple Before we can talk about whether there are actual differences between Eastern and Western — Islamic and Christian — societies in terms of secularisation, we should first define their social system That differences exist there is no doubt, but what these differences are is still to be determined.

Correa

With regard to the idea of rupture within Islam, I really do not think it matters in terms of architecture because that is what it is actually all about a kind of compulsive intervention without necessarily understanding the problem The poet, for example, does not really have a basis for action, but in writing his poem he illuminates life, gives us an insight beyond material statistics It seems to me that there is a reason to accept the intervention of rupture as long as we make it something positive, and perhaps use it as a catalyst for new forms of creative expression

Serageldin

The concept of "rupture" is indeed an important one. It permeates much of the discussion in this room. It is reflected in the need for constantly asserting the uniqueness of the Muslim environment, its differences from the rest of the world and its "separateness" from the broad world trends. This is a serious problem, and reflects an ambiguity which results from the intellectual rupture about which Professor Arkoun spoke as well as from the political rupture of historic continuity manifested by the colonial experience and the socio-economic ruptures resulting from accelerated modernisation during the last generation

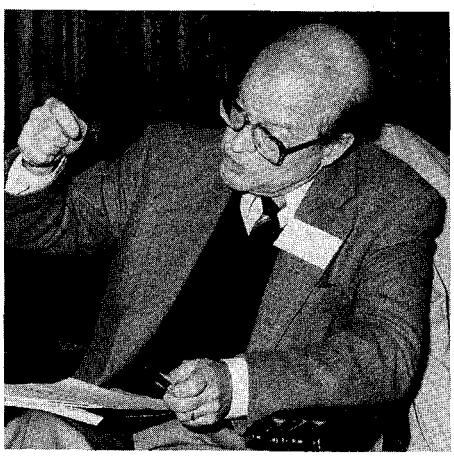
To the problem at hand: recognition of these realities requires that we bring a discriminating eye to the survey of our heritage and an open mind to the possibilities the world has to offer. To accept and integrate some of the new and reject and discard some of the old as well as some of the new: this is the way powerful, self-confident cultures cope with the world and keep renewing themselves. A flight from current problems into the realm of the past is neither feasible nor desirable

It is the critical, open attitude that is required to create an intellectual climate for adequate discourse and instruction in our universities Architectural education *per se* cannot be isolated from this overall intellectual environment.

Norberg-Schulz

I would like to make a comment on Professor Arkoun's paper in which he suggests we not use the word "Islamic" because it is "dangerous"; and I venture to say that if we do not do what is "dangerous" we will never get anywhere I think we should not hesitate to confront the "danger".

Man today is in a seemingly paradoxical situation confronted with the desire for the particular, a return to what is local, while at the same time forced to cope with what is



general and of universal scope. Man feels lost in the modern world; he needs roots and therefore there is much talk today about particular localities, their problems and situations. We should certainly be interested in what is happening in Morocco, in India or in any other country. However, we also live in a world encompassing all countries and cultures; we are all part of a universal, global entity. Our meeting here for this seminar has brought us all together from many different countries; and we can talk together because we have a common understanding, a common belief in certain values. We do not necessarily share the same interpretation of these values, but, nonetheless, we understand one another when we speak of Islam, for example The unique national character of Morocco takes on a new dimension, a deeper meaning, when it is related to Islam. France, for instance, gets its full meaning in relation to Europe, and we, at this seminar, take on a new meaning in relation to each other. Let us guard ourselves against fragmentation, emphasising the local to the detriment of the general. We should not be reluctant to use the word "Islamic", but rather happy and proud to use it. Let us avoid the error so common in Europe which is to deny one's identity and lose self-confidence.

With respect to architecture, I agree with Professor Kostof that architecture is the entire number of buildings; but it is also something else From that number of buildings we can and must extract principles which make those buildings stand out with their value and meaning If we do not do that, then we are left with meaningless fragments As in human life, we have to create unity and balance between the general and the particular.

Barrada

It has been mentioned that there is no such thing as an Islamic architecture and some even argue that indeed it never existed. *If* it did not exist, or does not exist, we would have to invent it because of its crucial role in helping restructure the disintegrated cultures we find in most parts of today's Islamic world. It would certainly be better, of course, if it were based on the continuation of what is considered to be tradition, but it need not be.

Arkoun

One of the main difficulties facing Muslim societies today is the problem of how to interpret the Qur'an for various purposes — such as the one we are discussing here — of how to create an Islamic architecture based on Qur'anic precepts We must remember that the new generation of young people since the 1950s and 1960s has been brought up in a new ideological atmosphere, in societies fighting to be free from colonial rule. And now we have to speak to this generation of activists, we have to answer their questions that have no reference to Islamic cultural tradition or Islamic thought as they should and would be known through the study of history Their questions are those which we hear in the ideological discourse of official media spread throughout the so-called "Islamic" societies; they want to know, for example, how to organise political institutions on a Qur'anic basis.

The point is that is impossible to initiate a new intellectual and cultural approach to the Qur'anic text. During the first five centuries of the Hijra, Muslim thinkers developed an extremely elaborate and complex science of exegesis called the *usul al-fiqh*, in which we find the principles and methodology of how to read and interpret the Qur'an, the Islamic law. It is an intellectually rich science But today's young generation does not even know what *usul al-fiqh* is! How do we introduce it to these young people? How do we reintroduce an intellectual distance to the Qur'an itself, as it used to be in the classical age? This is the tremendous historical rupture from which we are suffering today It is impossible and naive to ask what the precepts in the Qur'an are in order to create a modern architecture This is a totally irrelevant question

What should be asked is: What are the cultural and intellectual conditions of *today?* Islamic thought has to approach the Qur'an in the cultural context of modernity, which has created intellectual conditions in knowledge, historically and intellectually, different from those of the Middle Ages. The science of linguistics used for reading and interpreting the Qur'an by Tabari, the great exegete of the Qur'an is no longer relevant today The science of *usul al-fiqh* — that is, the methodology of Islamic jurisprudence — is not based on the same concept of history as is used today by modern culture. This is what historians call an epistemological rupture in thinking and culture But all these issues are totally ignored today and we remain solely on an ideological level which is, unfortunately, dominated by political forces and further confounded by the West's discourse about Islam We find eminent scholars teaching in the most famous universities of the West who take the floor and make solemn proclamations about Islam What they proclaim is totally irrelevant to the questions that are being raised by the young Muslim generation of today Such is the issue at hand, how to confront these *acteurs sociaux* The task is very great indeed.

Comments

Petruccioli

Professor Grabar raised an important question: that of type, which is a set of general references, constants in history. Type can be imitated and modified only in the superstructure. The church type with a central plan, for instance, can be articulated in many ways, but, if one side is extended, another type emerges; the basilica. A model is something that can be copied exactly as it is. The problem is that today people build their own houses based on a model which is often a third-hand copy. They may not even know the original model. The result is often what I would call "garbage neighbourhoods". Even if the model itself is a masterpiece, it can indirectly inspire such disasters.

The aims and objectives of a course in design are different. One hs to deal with the environment, with the fabrics of the town more than with exceptional landmarks.

We have to reach a diffused quality in the environment. The Alhambra struck me, but it is the Albaycin quarter that should be our frame of reference. There, unity comes from a typology of roofs and facade colours even though all the houses are different. The real problem today is that everybody when building his own house tries to build an Alhambra in miniature. Can we conceive of a town made only of Alhambras? I don't think type has anything to do with art (as a product of genius). Type is an important instrument in the making of architecture. The type of the Turkish mosque, or the church with the central plan, or functional categories such as railway stations or high schools are typologies *a posteriori.* There is a type *a priori:* a certain period of history in a certain cultural enclave, the manner of building houses has been so much a part of the consciousness of people that it was an unconscious act. Everybody knew how to build a house without a model.

Correa

I feel that neither Professor Grabar nor Professor Holod addressed the subject of architecture as art. Professor Holod seemed to tell us more about the geometric basis for certain kinds of built form but not when it is art and when it is construction. Professor Grabar spoke about the difficulty of discussing architecture, not as art, but as art history and based much of it on the problem of dating it. I venture to suggest that that isn't the crux of the issue, whether it can be dated or not. I would think art represents, or at least tries to represent, if it represents anything, a kind of platonic ideal, which, by definition is not replicable, but exists in the tribal, racial or social consciousness of man.

Some things in life with a mythic basis, mythic forms, are perfect and don't need to change; but that's not true of architecture. The very basis of architecture changes because technology changes, habits change; so actually we have to find a way of reinventing the archetypes, the myth. In that sense, where is this insight which brings about art? It seems to me it doesn't come from dates. In fact, I don't think it has anything to do with dates. If we look at literature today, there's a real truth which is different from an historical truth. Certainly when one reads Salman Rushdi, one sees that his truth about what Bombay or India was has nothing to do with the fact of dates; actually, he on purpose changes the date of Gandhi's death, because it suits his story and enables him to reveal a greater truth

It seems to me that this kind of insight is very important at this moment in Islamic history. We need students with the ability not only to create the typologies, the bread and butter of existence, but also to create the myth; because without the myth there is then no viability for the typologies. Therefore, in architecture education we need the typologies, and perhaps the geometry which generates them; but we also need the insight Let us keep it in mind, that we need both.

Grabar

What Mr Correa is talking is about being a poet. That is, the examples he gave are poetical answers to poetical statements. They are not the answers of historians or of history. History may be a useless discipline, but the point is that it is the profession I profess and I am not a poet. Had I been a poet, I would have written poetry, not history. In other words, what Mr Correa is proposing is the creation of philosophers and aestheticians, but that is a different field, a completely different enterprise with different techniques, for different purposes from those of history. History is dates. They may not have anything to do with architecture; but history, none the less, is dates and it is impossible to do history without accurate dates. It is possible that to do architecture without poetry is a sin; I'll grant that. But my point was that every school claims and every country claims that they are doing things because of their history, and therefore, in my opinion, let's do the history right or else let us call it something else. Whether, in addition, there should be poetry of architecture is a different issue and I'm not competent to deal with it. History is dealing with time, explaining it, or interpreting it. Aesthetics is dealing with beauty and quality and poetry in a way to express beauty and quality. Perhaps all of them should be taught in schools, but they should not be confused.

Holod

My answer to Professor Correa is that, the six categories I outlined are not necessarily the only ones. I was only trying to show the kinds of sources that are charged with information that allow for a poetic analysis. When dealing with the history of Western architecture, we constantly go back and forth between Vitruvius, Alberti and the like in an easy fashion. Now, neither Vitruvius, not Alberti, for that matter, are that poetic; yet we spend a lot of time dealing with them in theory courses. They are necessary in order to activate the poetic, the

astronomic, in fact the entire inheritance for it to begin to make sense, so that these buildings are not only the beautiful white whales that are beached somewhere on a shore.

Diba

In Western encyclopedias one sees that the three fundamental criteria for architectural art are utility, solidity and beauty. The emphasis in the case of beauty is on external form. The human social and economic content is downgraded in importance. In Islam the notion of art comprehends not only beauty of external form, but also, most importantly, the notion of the human and social content and the truth of the moral endeavour. This concept, expressed in Hegel's aesthetics (objectivism/subjectivism), can often be found in the Qur'an where it is said that all things have their external truth (form), but that, in order to understand them, we must be able to penetrate inside them and observe the core, the content. We can only talk of a work of art, accept or reject a work of architecture if we use this synthetic approach, combining the exterior and the content, in which we appreciate both form and the sociological, cultural, economic and human values in a building. A building must be informed by the desire for justice to be art, to be beautiful.

I would like to hear the opinion of Professor Grabar on this subject.

Kostof

I think we are confounding things very badly. It seems to me there is first the question of absolute beauty versus relative beauty. Architecture students love to be told that there are certain ineluctable elements of architecture that beyond time and place will make a building beautiful When one tells them that this may not be so, they are very disappointed. The opposite of this, of course, is relative beauty, which is to say that there is absolutely no purpose in comparing Chartres with the Friday Mosque in Isfahan because their entire frame of reference is so different that beauty, in that sense, is a cultural thing.

The second set of issues is what Professor Grabar was saying: time versus originality. Again, architecture students periodically love to think of themselves as creators of form. The notion that the history of architecture is the history of a very small handful of building types forever varied, seems terribly disappointing to them, as is also the notion that art is born of restriction, not of infinite freedom.

The third issue is the observer's visual reaction, versus what Professor Holod was trying to tell us. We may like a building immensely without knowing that, beneath it all, there was an incredibly complicated, sophisticated set of issues discussed at a particular place by very sophisticated minds We may still like it anyway. Or, we may be totally oblivious to both its beauty and its learnedness.

The fourth issue is something we never talk about in schools of architecture, which is condemning buildings — especially those that are being built today — but which are often loved by the public. We never understand this; we say: "that dreadful-building-around-the-corner", and pretty soon it becomes part of the city's skyline We all panned the Transamerica Building in San Francisco; every class said what a horrible building it was and how it ruined the skyline; yet today it is a public monument People love it; they have it on their T-shirts. So there is that aspect of elitism versus some innate thing.

Finally, let me answer Professor Diba's question regarding beauty in art. The whole notion of inculcating beauty as part of the Vitruvian triad disappeared with the Bauhaus. The Bauhaus tried to tell us there was no such thing as beauty, that it is social consciousness that creates beauty, not some affected thing. In consequence, in the 1960s and 1970s, we became terrified, and in public, at least, we stopped talking about beauty. When you ask a student, "Why do you have a round window?" he mutters something about wind velocity, but what he really

wants to say is, "I love circles." Aalto once said that about the Baker House Dormitory at M.I.T. Once a student asked him at the end of a lecture, "But why is it S-shaped?" He replied, "Well, that makes V-shaped apartments and they look over the Charles River; the cost per foot is such-and-such." Then he stopped and said, "Now this is what you tell the client. However, I did it because I love S-curves." But we don't talk about that anymore. Let us by no means frighten students about the necessity of talking about beauty, which is there in some form.

Mobashsher Ali

My question is addressed to Professor Grabar concerning the forces that determine the acceptability of architectural forms by the general public. In most cases architectural projects are evaluated by professional architects, whose opinions are highly valued by the designer of the project. The general public, however, seems to accept new forms rather arbitrarily or even indifferently without any analysis or evaluation. In one case, for example, plastics were used for low-cost housing in a rather conventional way and were totally rejected by the public. What might make these materials acceptable? Is it just a matter of time or the intervention of some outside forces?

Grabar

I really don't know the answer to that question, except that the technique of presentation of a building or of an idea has something to do with its acceptance. I know that I've felt at times the best friend of an architect is his photographer. Do masses reject works which are bad or accept what is good? I don't think it can be predicted.

Serageldin

I was fascinated by the presentations of Professors Grabar and Holod. They both have made telling points on the importance of history and the proper study of history. My question is not whether architects should be exposed to history, of course they should. The question is how should such history be presented and taught.

Obviously architects are not expected to become historians. There must be differences in both approach and content when presenting history to architecture students and to history students. I would be interested to know your views on these differences.

Grabar

This is what really troubles me. I know what a historian is doing and what an historian of art is doing, and that ninety per cent of what he is doing is of no interest to an architect. However, can the ten per cent which is of interest be learned without the ninety per cent which is of no interest? What does an architect want out of history? I'm beginning to understand what society or governments, countries want out of history: models, icons, arches or triumph, symbols. I know what national ideologies want schools to teach about history, but I don't know what architects want out of history. Perhaps the role of the historian is to be a transient photographer; that is, he takes lots of pictures, makes them available without any indication of what they're all about, and lets practitioners choose whatever they want.

Holod

I think the key thing here is to realise that the material which a historian presents to architects can indeed be made alive and validated in a variety of ways. First, it is important that the person who presents this material doesn't talk through te top of his hat. This is why I insist on the need to develop a much more sophisticated idea of what was the true design and thinking context in which a building was created. It is not enough to say: "This is a building; here it has eternal harmony." That is not what my real function is. It is to say, "Look, at this time, in this place, here were architects. I know because I have been able to gather this-and-this kind of information and have seen that there was a sophisticated design intelligence that came about in these-and-these ways to create this building." That is fascinating, and I don't need to do it with every building, make elaborate chronologies, though it helps to know when these buildings were built and in what context. If we continue to treat architects as historical idiots — which happens very often — and say, "Oh well, they're not interested in history anyway", then we're not going to get anything back. Of course they're interested in history. They're going to deal with it in some other fashion, arrange it in some other way. My purpose in teaching architects is to present what I know about the historical context of a building in as rational and complete a form as possible.

El-Wakil

I want to stress the importance of what Professor Holod has said in her presentation, which I believe is very crucial to architecture and education. I have seen many architects who have disregarded the past, not because they were trying to be innovative, but because they were incompetent in applying the geometry needed for the forms they wished to create. Many modern architects are incompetent to do descriptive and projective geometry.

I am now working with a staff of more than twenty-five architects of all ages, some of whom are from post-war generations and who have a very simplistic view of what classical architecture is. They look at it and wonder if the people that built it worked from drawings. There are some who actually

believe that somehow it all came about by accident as if there was some magic in it. Since there is no evidence and no proof, they think that those forms and those designs materialised through some sort of magical taboo or sorcery. They don't realise that indeed there was a geometry. Today there is only one man who has been able to see this underlying geometry, and this is Ecochard, who restored the Azem Palace Damascus. Today we find that restorers and historians have more knowledge than architects; and in order to get that knowledge, they have to work as restorers or historians. I believe that an architect has to work within a tradition and not disregard the element of time. Just because we use the word modern it doesn't mean we have a *tabula rasa* and that everything that came before us is no longer of any value to us. If we are going to create modern architecture, be innovative, then we have to be as knowledgeable as possible. If we are to evaluate architecture correctly, we have to be able to integrate our knowledge into our designs.

Professor Grabar spoke about typologies and forms reaching their perfection at a certain point, marking the end of a cycle. Sometimes I know that I cannot achieve the perfection of an architect who worked in the twelfth or thirteenth century; but, as a craftsman, I can see the ingenuity that the architect used to solve a problem. Sometimes the same problem faced and solved earlier crops up again and we come to realise that we have not looked deeply enough into history. I had a problem with a building I was designing and couldn't solve it properly until I saw how Sinan solved it. Now I realise that I should have looked carefully at Sinan's work.

All this is very important with regard to architecture education, as was duly stressed by Professors Grabar and Holod. It is not enough to speak of some sacred geometry that deals with symbolism or mythology and neglect practical geometry. Many students come to training without knowing how to project two lines together. We are not dealing with literature, but with a craft that requires a technical know-how, without which there can be no art.

Abdelhalim

It seems to me that Professor Grabar dealt with the relationship between architecture and art, rather than rethinking architecture as art. The implications of this latter concept for the teaching of architecture are extremely important.

It is the nature of the problems facing the Islamic and developing worlds that makes it crucial to think of architecture as art. In this time of chaotic changes in the nature and structure of our societies, our whole situation is ill-defined and the outlines of the problems we face are fuzzy. It is art that has the capacity to provide the definitions we need, to give form to the questions that we have not even been able to formulate. It is art that has the creative capacity to provide meaningful order to our environment.

In architectural education, we should contemplate the integration of design and craft, of school and community. Genuine groups of students and teachers could be formed that would overcome our problems of large numbers, deficient resources, and alienation.

I believe that in Islamic culture there is a model, a retrievable one, of architecture as art.

Lye

I would like to make two short statements. First, I'm wondering whether both Professors Grabar and Holod are using Western historical methods to analyse Islamic history, because in the West it isn't so well-known. I raise this question because once I was telling a German architect, a friend of mine, how great the Germans were as historians because they analyse everything so beautifully and you say, "Thank God, they don't have us analysing Chinese architecture, and if they do, they won't have much left." So I think this is an important question we should not try to evade.

Second, on the issue of teaching our students the history of architecture, we have to select only those aspects of history which are still relevant now, whatever they may be, which can be applied and used in the designing process.

Mouline

It is well known that the contribution of historians is important for understanding the architecture of the past. The historian enables us to fix a work of art or a building in temporal context. However, is the historical approach sufficient for defining and classifying a building as a work of art?

An easy answer to this question could be to say that, by definition, art historians study only works of art. However, the fundamental question in the theme developed by Professors Holod and Grabar was that of the status of architecture in art. In other words, what is it in a building or a work of architecture that makes it a work of art? Is it external criteria, having to do with the weight of history, and the consensus of a social judgement that establish an edifice as a work as art? Or, are the criteria internal ones, tied to its internal organisation and a closed composition an embodiment of formalisation that orders all the architectural elements into an aesthetic, plastic expression? Or, finally, is it the art historians who via their historical and critical discourses and by the studies that they devote to a building, raise it to the level of a work of art?

Furthermore, what is it in a building that makes it a work of art? Is it the building as a whole or only a certain part of it? What is the relationship between a building considered a work of art and the way it is "read", for example, by a visitor passing by or by the users, when it is a matter of domestic architecture? Finally, if it is the aesthetic, plastic expression that determines whether a building is to be classified as art, how is this

articulated with other expressions and functions?

Ramos Galino

I would like to make two statements related to Mr Mouline's comments. The first one refers to the issue of the character of colonial architecture. Spanish architecture in Latin-America was very different from its contemporary counterpart in Spain, and we half assume it is ours. Hispano-Americans think of it as half theirs. It's a child of both.

The second one refers to external certitude and internal doubt, a point made by Professor Grabar. All schools of architecture, at this point, are in doubt about how to teach. It's pertinent to ask whether it is possible to teach an architect how to be an architect. Surely, the only thing possible is to learn how to become one. The teacher's mission is to gravel the path, but it must be walked by the student.

Grabar

The discussion has shown, first of all, the paucity of conceptual thinking about architecture as art or about the uses and values of architectural history and the poverty of the vocabulary dealing with both subjects. The absence of references to theoretical writing suggests that relatively little thought has been given to these topics since the advent of Modernism and that such thought as exists is not well-known nor accessible. The clarification and further elaboration of judgemental criteria, especially within the context of a contemporary and/or traditional Islamic thought, are clearly necessary for the continuing discourse of the Award.

On a more concrete level, two points seemed of particular relevance to our purposes of defining or analysing an appropriate architectural education. One is the contrast, if not opposition or confusion, between history and aesthetics. Dealing with

and understanding the past in *its* own terms is an entirely different exercise from that of assessing a building or an ensemble as a beautiful work.

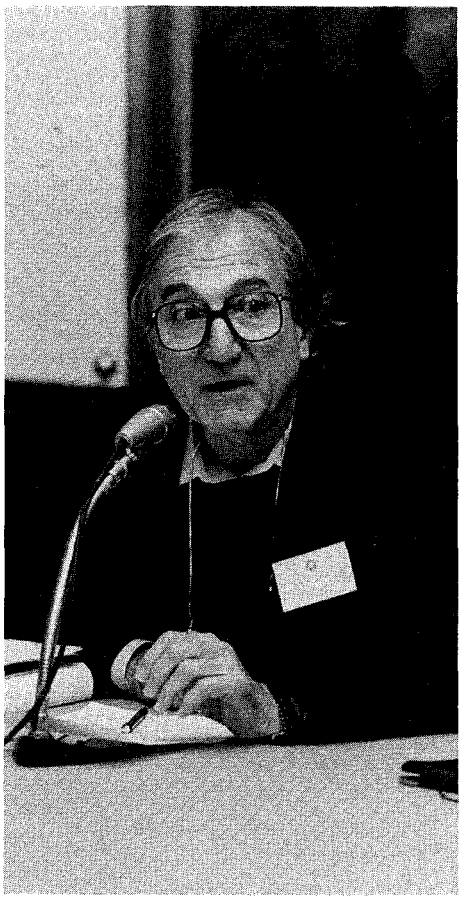
Different methods of analysis lead to different results and the training and competence of a historian are not those of an aesthetician. Are both needed in schools of architecture? How can they be integrated within a curriculum based on studios? Should it be an obligation for students *or* for instructors to become well versed in history, philosophy, or both?

The second point is the identification, at least by implication, of three "client-constituencies" for schools of architecture in an Islamic world. One is the ruling system, usually the government, which expects solutions to certain practical problems, but also conformity with ideological and not visual interpretations of the past. The second one is a society whose tastes vary from place to place but are conditioned by readings, images, memories, magazines, whose analysis remains to be made. The third one is the student body itself, as so many speakers used student reactions or actions as evidence for their arguments. What are the expectations for themselves and for their society of those young men and women who wish to become architects? The question is possibly worthy of a seminar.

Comments

Chadirji

I would like to respond to Professor Haider's paper, by making a statement from a paper which I did in 1978 on regionalism and how to approach this problem with regard to modern architecture. It has to do with the relationship between faith and regionalism in architecture. What I said was that to achieve modern architecture, one necessary postulate is to exclude faith which I consider a regional constraint in the twentieth century. Regionalism and faith are not compatible with modernity. Therefore, a pre-condition for modernity is to transcend regionalism. This could be achieved by the regionalisation of internationalism which need not be contradictory to modernity; and it is according to these principles that I, as an architect, work and design.



I would also like to address several questions to Professor Porter.

1) What is the relationship between technology and art in architecture? Is it art that determines technology or technology that determines art?

2) Are the same technological values or cannons valid for all cultures?

3) Are art values relative or permanent?

4) What is the relationship between machine and technology?

5) What is the difference between engineers' aesthetics and architects' aesthetics? In other words, is there a difference between the two aesthetics? Why are they not appropriate in certain countries?

6) Lastly, what do you mean by dialectical relationships?

Porter

Let me try to answer these questions. The first question that you raised with regard to the relationship between technology and art seems to me is exemplified in each project and is impossible to generalise upon. I tried by citing several examples in the paper to illustrate the variety of ways in which technology and art could be joined through architecture. Therefore, if you look carefully at each example, there are aspects of technology that emerge through the artifact itself; for example, the use of the grid is one way to exemplify technology. The romanticising, if you like, of the machine, through Chernikov's work, was another way to illustrate technology through architecture. Technology in architecture does not appear in any kind of inevitable, simple and consistent way. It shows differently through aesthetic attitudes that are developed in a variety of ways in different works. I would encourage you to look again at the examples given in the paper as a way of discovering how technology and art are joined.

The same values in all projects? I think I have already addressed that to some extent. No, I don't think there is a consistent set of values that can be illustrated in all projects. I think the idea that technology is an eternal constant is perhaps one of the myths I was trying to dispel. I don't think there is a constant notion of technology that can be, or perhaps should be, expressed in all works. It comes out differently, depending on the action of very bright minds with different aesthetic attitudes. Technology is therefore revealed in a variety of different ways.

Your third question, are values permanent or temporary? I don't think I would put the question quite that way. The same values can show up in a variety of different works, but if they're permanent or temporary seems to me to be a false argument. It would take much too long to develop that as an idea just now, but I think it's a very important one, and deserves another paper entirely.

What's the relationship between machine and technology? I can only answer that contingently; that is, in relationship to specific works. I think Chernikov established a relationship between machine and technology; he chose to use it as a way to amplify the notion of technology. There's nothing permanent or enduring about the relationship between machine and technology, but Chernikov chose to use it as a means to project the notions of the Revolution, of the new aesthetics to contrast it with and even to deny the classical and Beaux-Arts traditions that were very much in vogue before the Revolution itself.

The engineers' aesthetics and the architects' aesthetics, I've tried to argue, ought to be seen as the same in principle; that is, both using elements of the past. My argument in the paper was that, too often, engineers fail to acknowledge the cultural overlay on their own art. If they did acknowledge that in the teaching of technology to architects, instead of teaching it merely as a new science — the results of which are inevitable and logically derivable from a set of mathematical principles — they would go very far towards wedding the art of engineering to the art of architecture, and toward alerting students in architecture to the need to look for those very same things in their own field in architecture itself.

Are there values which are not appropriate to certain countries and why? I'm certainly not trying to argue that I would ever be in a position to make that decision. That's not the point I was trying to make. In my paper I argued that such decisions ought to be made by the people who are designing artifacts for those particular countries, whether from within or without. And I don't think it's a decision one can make *a priori;* I doubt if it is a matter for decision at all. It is instead a matter that must be carefully considered during the course of the creative process by the clients, designers and others who are involved in that process.

Finally, the dialectical relationship that I touched upon from time to time, was simply a label for the capacity of architectural form to hold more than one idea, and, specifically, to hold and make evident conflicting ideas in the same artifact at the same time.

H. Pamir

After the paper given by Professor Haider I was a bit depressed, because of its very pessimistic tone ensuing from the generalities mentioned with regard to the countries where most of us study or work. Perhaps Professor Haider could suggest more optimistic alternatives which he thinks should be developed and fostered.

There was also mention about Islamic epistemology and Islamic technology. Could you please explain these concepts.

Haider

The pessimism that might have been projected was totally unintended. Most of the content of my paper tries to make the point that Islam becomes a playball in most of the symposia that I have attended. In fact, our prior discussions confirmed my feelings, and anticipating that it would again happen, I began by taking account of what Muslim societies do when they begin Islamising their modes of action. Thus, in identifying the current state, the disfunctions and aberrations in Muslim society, I listed four or five points which apparently gave the impression that there is a widespread problem. However, I should have perhaps stated that the problem was not applicable to those present here whose attendance at this session attests to the fact that they must be doing something that has a positive value.

As far as Islamic epistemology is concerned, what is truth and untruth is a philosophical issue that has a lot to do with one's world view, *Weltanschauung.* I believe that if we looked at it that way — and I'm sure that in the history of Islamic thought Muslim philosophers must have dealt with the questions of what is knowledge and what is truth — we would be able to discern an Islamic epistemology.

With regard to Islamic technology, I am personally very doubtful as to whether there is such a thing as Islamic technology. However, I do believe that there is an Islamic viewpoint on the use and development of technology, which I think is rather different from the attitude that is taken by societies where production and profit is the prime operational mode.

Arkoun

The paper presented by Professor Haider is not pessimistic. It shows the dominant realities in Muslim societies today. They are described with the strong faith in the possibility and the necessity for all Muslim intellectuals to contribute in a positive manner to the historical evaluation of our societies as they actually are: with their historical heritage (positive and negative), and their present social and political difficulties. When criticism is dictated by a strong faith in the positive future of our societies, it is optimistic, constructive, and, as such, should be always welcomed and encouraged.

However, I think that both Professors Hadier and Porter should have considered three major historical actors in the contemporary history of the Muslim world

1) The state is the principal, dominant actor, monopolising all the decision-making on all levels, be they social, cultural or political. It is the state that decides on the introduction of highly sophisticated technology in an archaic society, regardless of the real needs and expectations of that society.

2) The second actor is the people who make up the society. They have no decision-making power because the state continues to regard them as it did back in the colonial period. The people have no say as to whether technology — and what type of technology — will be imposed on them.

3) Western culture can be considered as the third actor, introduced into the Muslim world under thê guise of modern technology.

All of these three actors have to be always taken into account when we are discussing the problems of and the reforms needed for improving architecture education in the Muslim world.

Porter

The point that I'm interested in emphasising is that technology does not come whole into architecture; it comes mediated through form. Technology is not a creature to be coped with that is describable *a priori;* it emerges as a function of architectural form. It is seen through the artifacts that are made. This is why I stressed in my paper the need to develop some sophistication on the part of architects in the handling and manipulation of an architectural language. There is no simple, direct expression of technology in architecture; it is indirect, revealed through architectural form. Therefore, if the architect does not have a sophisticated architectural language, he unknowingly, naively, reveals technology at its worst or conceivably at its best. It's urgent that we understand architectural design as a language to be spoken, and spoken well, hence, the

exploration of the analogy between architecture and language.

That is where, I believe, we stand a chance to intervene in architectural education: to raise the level of understanding of what is being done when one uses an exposed I-beam connected boldly with a bolted connection which asserts itself aggressively at the point of entrance of a building. That's a different kind of statement than one which produces a slick machine skin that can only be made in, let's say, a highly industrialised country that is used to clad a particular building, and is perhaps destined for some modest social purpose in a frontier situation in a poor country. These are choices which by themselves look innocent enough, but, in fact, are deeply embedded in a language spoken in a particular society that has meaning. Therefore, technology appears through form, not by itself, not because it holds any original permanent state that is either to be revealed or not to be revealed. It is through an architectural language which is well-understood and well-handled, that we stand a chance of modulating our view of how technology can be seen and understood in a particular society, and it is through that understanding that we stand a chance of developing ways of intervening into the educational process.

Haider

I think the best way to bring the issue of technology into the realm of architecture is to make it a respectable subject in the architecture studio. I have strong faith in today's generation of young architecture students to respond in a very positive manner towards the introduction of technology into the curriculum. We, as professors of architecture, should start speaking about technology, structures, materials, climate and environmental control systems not as mere feasibility checks as to whether this or that building is going to stand up or not, but as having philosophical and cultural import and the need to raise questions as to why a certain choice was made and not another.

There is today a widespread lack of critical evaluation of architecture being built in our countries. There are no critical publications or journals which would be devoted to the evaluation of architectural projects and buildings. Even in the West, in countries such as Canada where I teach, architects avoid the subject of technology because it is considered to belong to the realm of engineering rather than architecture. We love to theorise and speak of abstract architectural concepts and fail to see the significance of technology in an architectural work. Hence, we graduate students who are rather naive with regard to the use of materials, techniques and systems. We should change our thinking and attitudes about technology and perhaps after about 15-20 years will hear students speaking knowledgeably about the technology that goes in to producing architecture.

Diba

What Professor Haider presented in his paper is very true. However, I would like to stress the importance of the social and political environment in one's search for an identity and self-expression. For example, when the first school of architecture was established in Iran fifty-years ago the dean was French. The study and design of traditional architecture were strongly discouraged, if not totally banned. Western architecture dominated the curriculum. We must, therefore, not forget the impact of the social and political context in which architectural education has to take place.

Djerbi

In the past, the apprentice architect learned from a master-builder who transmitted to him mastery of expression in a given style. Modern educational institutions must fulfill their tasks in very different conditions.

The number of architecture students in Tunisia is very large, and their socio-cultural profile very varied. There are no universally accepted cultural references. The cultural rupture that many, if not most, Islamic countries have experienced has destroyed the classical courses of instruction. All of these factors have contributed to the justification for adopting a new system of construction that would allow an approach to the architectural art that would be simple and at the level of the students involved. Subjects must be taught in an expressive environment with which the students can communicate. There must be a bi-level approach.

At the theoretical level, the student should acquire basic knowledge of the morphology and typology of architecture and the different historical formulations of architecture.

At the practical level, the student should be taught to read space at a site, an example of architecture conceived as a perfect response to its physical and socio-cultural environment. In most cases, vernacular architecture would be a good subject of study in this regard.

Adeyemi

I think that Professor Haider's suggestion of a gathering of experts for the purpose of problem solving, each of whom would combine at least two disciplines related to architectural issues, is good on the surface; but, if we look closely, such a gathering of experts is likely to achieve nothing but a confusion of issues. It happens that Professor Haider personally combines many of the virtues he calls for in his experts. I think what we are saying is that an architect should combine all these qualities; it is only then that he is able to achieve solutions which may be long-lasting.

Professor Porter has traced the development of technology in building and the contribution of the masters. This is all very well, indeed, but, what all these have led us into is a universal expression in architecture, one that is crystallised in the International Style. Where do we go from there, and how do the developing countries, including the Islamic ones, arrive at an expression basic to their values and cultural experience? Can this happen within the international language to which we have been exposed?

So far, we have yet to address what the architect-educator should do to produce architects of the type of Charles Correa, the avant-gardes of a new architectural order; and this is exactly what we need for significant breakthroughs. The student of today understands more easily objective viewpoints than philosophical expositions. Yes, we need philosophy, but only to activate the student's imagination and stimulate creative thought. The legacy of the masters is in objective and rational thought, a legacy that we should not allow to recede into the background. Perhaps the idea of the Bauhaus should also be reconsidered with a view to bringing the study of technology into workshops rather than into studios, as Professor Haider has suggested in his paper.

Meer Mobashsher Ali

Regarding the social acceptability of forms, architectural form in most cases is criticised, evaluated and analysed by fellow architects. Designers seem to be primarily concerned about the comments and evaluation of their peer group of fellow architects. The general masses seem to accept or to be indifferent about architectural forms. What are the forces that determine this acceptance and passivity?

On another matter, plastics seem to have a future in low-cost housing. We tried plastic in low-cost housing in a rather conventional way, but the plastic was not accepted at all by the masses. What might make this material acceptable? Is it just time; or is some other element involved?

Ahmad

We worry too much about the impact of modern technology on traditional form and forget the contributions of Muslim technology in the past, such as those during the classical age of Islam. If we realise that technology is not something new to our culture, which earlier contributed to its development, we will then be more objective in our attitudes towards it and will take measures to forestall any adverse effects arising from possible foreign values that may be imported with it.

At the other extreme is the infatuation with traditional forms produced by old, even obsolete technologies. These forms continue to be reproduced using modern materials and techniques even though they no longer have any functional justification. It is argued that the forms have important spiritual or symbolic significance, this attitude is equally damaging to the progress of thought since it hinders the search for new forms, new symbols and new ways of expression, and unduly limits our horizons.

Keng Soon

Professor Haider's paper dealing with the issues of the state of technology was truly enlightening. As a follow-up to this, though, I would have liked to hear Professor Porter explore the full range of technologies and their implications in terms of value in greater detail. It is vital, as Professor Haider stressed in his paper, that architects have more respect for technology because, generally, they tend to have misconceptions about what technology is, attributing to it a broad, generic form.

Technology and the modern state have a tendency to share the same corporate values. They both want total control and total predictability, justifying this on the grounds that efficiency is better achieved in the delivery system. This may be so at a certain stage of development in a society, but its danger lies in the risk that this may sap the vitality of that society.

On the other hand, technology can also have a decentralised form, so that it is more accessible and responsible to local demand, taste and flexibility. We need to look into a multiple-options technology which allows for more public participation and results in housing that is more economical, efficient and satisfying. John Habraken's work in Holland, for example, has shown that there is a 15 per cent saving on building costs where the tenants themselves decide how they want their flats built before they move in. Whereas in the case of the centrally designed and controlled flats in Spain, there is a 10 per cent waste of materials incurred once the tenants have already moved in and only then can make changes. A multiple-options approach is to be encouraged because it liberates the profession; encourages a constructive dialogue with the public; develops skills; and brings about the satisfaction from having been involved in the development process.

Porter

I think your point, Mr Keng Soon, is very well taken that, in fact, in retrospect it would have been excellent to have a paper develop different aspects of technology. One paper can only do so much, and mine was focussed on architectural language. I did try to bring out the difference between decentralised and centralised technology in relation to, for example, Le Corbusier's work. I would say that there are instances of highly decentralised technologies, for example, programmes of core housing that depend upon locally-made block, as contrasted with projects in developing countries where the architects responsible for the design of those projects have not understood the decentralised character of the technologies they are working with, and have designed those units as if they were from a centralised technology, handled by a highly organised crew, sent out from a large city, knowing to do nothing more than to repeat over and over again the same forms. The issue I feel I touched upon obliquely in the paper because it is tied to architectural language. It would be grand too have a more careful development of alternatives in the technology of construction, careful articulation of the different stages in the sorts of differences that you were talking about, such as between manufacturing and assembly, of implementation on the site and so forth, — of different stages, in other words, that might be amenable to different classes of design decision which would open up as Le Corbusier did in a very limited way with his Pessac housing. You raise an excellent point: the more one understands the technology of environmental control, the more subtly one can enter into it and adjust one's design decisions to take advantage of the freedom that such greater understanding affords, and, in the end, create an architecture that is much more specific to particular places and people.

Saad

I have a question for Dr Serageldin. In your paper you mentioned that architecture and planning in developing Islamic countries are often influenced by political practices. However, when you spoke of Cairo, I had the feeling that you placed the blame on the architects and planners and thereby avoided the issue; but since you brought it up it would be interesting to hear your comments as to how we could make our students more aware of the political interferences that affect the field of architecture.

Serageldin

I wasn't trying to avoid the issue of political interference. I simply said that although architects will never be able to build enough houses for five million people, it is the lack of vision and commitment on the part of architects and planners to influence decision-makers. This is something that cannot be taught, for it involves strength of character, a willingness to stand up, a willingness to be ostracised and pass up commissions. Many of our architectural schools in the Muslim world are not placing enough emphasis on building character. In fact, they are trying to fit people into particular modes, by imposing a particular curriculum, discouraging questions and criticism. The result is people who cannot cope with problems Let me give you two examples

Recently, in Cairo, the restoration of al-Hakim Mosque was being done in such a careless fashion that the head of the Antiquities Department and its entire advisory committee sent in their resignations to the Prime Minister. The result was that their actions generated enough interest to stop the project A few years earlier, there was another famous case of the building of the Giza Pyramids Plateau. That project was stopped due to the outcry of a few activists and the support of the press.

So, here we have two salient examples of what responsible individuals can do to influence decision-makers. I find it strange that in both cases, neither the Chamber of Architects nor the engineering profession spoke up, but rather private citizens. This failure of the professional elite to influence decision-making is, I believe, attributable at least in part to the failure of our system of education which produces technicians, and not true professionals.

There is not enough of an outcry by the profession against this way of doing business. They're all busy running after commissions; this is a fact of life. One of the few who did speak up was Hassan Fathy, who talked about self-help long before it became fashionable to talk about self-help. So what happens, Hassan Fathy, who spent most of his time working in Upper Egypt, who was very knowledgeable and who would have been the obvious choice for the rebuilding of the Nubian settlements was completely ignored Instead of rebuilding Nubia, standard rows of concrete blocks were lined up one after the other as though it were a delivery system. Who can give us 20,000 units in eleven months? And why eleven months? Because somebody was speaking to the President who said he wanted it in eleven months. That's how decisions are made. Where were the architects, the teachers, the intellectuals protesting that this is no way to go about it, that it should have been done differently? I think this is the type of conscious awareness and responsibility that we as architects and educators should commit ourselves too

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Moreno

I am addressing my comments mainly to Dr Serageldin. He has spoken about a training programme for architects at distinct levels I believe that this is impossible. Architecture, the architectonic phenomenon, is unique and therefore impossible to approach other than as such. Moreover, architecture students have very little similarity with bees. Simply changing their food will not make some of them queen bees and others workers.

Secondly, I cannot help echoing the tone of lament, related to the Islamic culture, which has remained in the atmosphere throughout the sessions. It has been said:

- There is no Islamic cultural corpus to transmit.
- There is a cultural "rupture" in Islam.
- There is a longing for a cultural secularisation.
- Islam hinders the objectivisation of the concepts that would permit its transmission. That is, enumeration of deficiencies and forgetting what one possesses.

This is not peculiar to the Islamic world. It is common among all humans. We do not value things until we lose them. Here, in Andalusia, this ancient part of Islam, we see with pain the "rupture" in the transformation of an architecture, which was able to respond to the most varied programmes and means, turned into a mechanical reiteration which humiliates us, both in a "palace" transplanted to the Costa del Sol and in the "solemn" works of imported architects. But, there's still hope. I mean that the crafts still exist, and that the solutions, tested throughout the centuries, can still be applied with purity. This also means that the "rupture" is only conceptual. The ability to create has been lost, but the crafts have been kept, and here is where we can find the ferment.

Dr El-Wakil told us of his surprise when he found colleagues who had difficulty to pass from the cube to the dome. This can be made by an unqualified worker either in Tunisia or in Algeria, even without a support. It used to be made also in Spain until recent times. Today we use a fibre-cement layer, barely adjustable and that it doesn't isolate properly or resist the wind. It can be broken with a kick. But, it is easy to buy. Think about what this means in terms of loss of employment, cultural loss, or impact on the landscape. These are issues as much present in Spain as in many Islamic countries. There has also been talk about the existence

of such a *corpus doctrinae* in the West. I don't think that it is structured in that manner, but, in the case that it does exist, it is not the solution.

Last year, in Brussels, on occasion of the then approaching entry of Spain in the EC, it was stated that the training of the Spanish architect represented the model of the ideal architect that Europe needed. I presume we should feel proud of this. But, I think we are ashamed of the greater part of what is being built in Spain. This happens due to various reasons, but in regard to what interests is here, it is the loss of crafts and the partial use of technologies which represents the difference between capabilities and realities. We have heard about the tremendous effects of political and military colonialism in some of the Islamic countries. This is the consequence of an interested, technological colonialism. It is stupid to deny progress, but it is even more stupid to underestimate what is valuable. Technology must follow needs (including aesthetic ones); not create problems.

Let's think about architecture to make it be an art. Let it use the best techniques, but without rejecting it as a craft. A beautiful one, by the way, giving shelter to life. Let us train, then, professionals. Let us transmit the craft as time and place have decanted it. We shall, then, train honest and socially useful architects. Later, from their number, there will be many innovators and a few nice persons who will be worthy of the Aga Khan Award.

This is still possible in most countries of Islam. From Andalusia, where it is not possible any more, we have the duty of brotherhood to advise you as I have done. We offer the attempt to restore our ancient heritage regarding what will be necessary to make it possible.

Padamsee

I must confess to a certain amount of alarm and despondency about what I have heard concerning the limited view of what an architect is and what he does. This limited view is curiously old fashioned; it is almost as if the intensive work by Turner, Saini, and others had not been done. Educating architects is a resource-consuming activity. If investments continue to be made in educating architects, then their training must enable them to fill a number of roles in society, not simply that of the builder of monuments. Architectural education could prepare students, for example, to work as both public and private sector architects, development architects, community architects, enabling architects and so forth. Perhaps Dr Serageldin could comment as to how he views this type of education.

Serageldin

That's a fascinating question and an easy one to answer. I think that the distinction is between nurturing and imparting skills. If you are saying that we are designing a curriculum that is going to specify someone as ideally suited for a particular task, then I grant that you will have many difficulties. But even that approach would not be insurmountable, since we see it, for example, in medical disciplines. There is first basic training for general practice, then there are the specialties. However, that is not the issue The kinds of distinctions you mentioned involve educational choice: the individual who wants to work in the community or in public service. What is needed is to provide students with a broad liberal arts education which will give them an appreciation of the kinds of issues that they will have to deal with whether they are consultants, architects, or developers, or persons in a public building agency or those working in the community It is not a matter of training idealised robots to cope with this job or that job; but to form enlightened citizens able to express and fulfill themselves to the fullest extent possible.

In response to the great need for manpower, we have homogenised the educational system to such a level that we are indeed cranking out people having a certified level of minimum achievement who are then left to fend for themselves as best they can through

connections, talent, ability, luck, or other means to find their way in society without ever developing the talents that some of them have. It is stultifying for the profession as a whole, and counter-productive.

Mobashsher Ali

There is a lack of creativity in Islam today, lack of creativity in its architecture and in its schools of architecture. We no longer have the ability to create and adapt to all sorts of different situations; and it is precisely this adaptability which we were noted for Today we find that culture has replaced creativeness and innovation, as is sadly the case in Andalusia.

Architecture is not only an art and a technique, but also a craft, and it is this craftsmanship that we have lost. We have to train architects to be craftsmen first and only then worry about making them technicians

Serageldin

Architects should be encouraged to appreciate and understand the crafts of their respective countries, working in a manner that makes them more creative and ensures their continuity. We have today 15,000 architects in Egypt and 17,000 in Turkey among which few are the professional architects who do the creating, the elite so to speak, and the remaining vast majority who are the workers, the craftsmen.

I think there is something wrong with a system that treats these people as failed architects, instead of recognising them and giving them a sense of pride as extremely successful craftsmen We should recognise the fact that the disciplines of building and design today have become complex and differentiated, requiring architects to fill a multiplicity of roles, all of which should be treated with respect.

Lolah

Architecture schools are centres of training, information and research. It is time to expand their programme of activities to include special proficiency courses for professional architects having already earned their degrees, and who are working in the public or private sectors.

The professor of architecture should not only be a theorist, but also an active practitioner constantly developing and increasing his experience in the field. Only then can he transfer his knowledge to the students effectively It is important that architecture schools prepare students to enter the profession with practical experience as in the case of Syrian universities.

A presidential decree in 1976 made available to all full-time professors teaching at Syrian universities the opportunity to practice their profession at the universities themselves. Special offices were provided for studying all kinds of projects and problems which were brought in by the State. Both teachers and assistants are now working in these offices. Many contracts have been signed for the study of numerous important projects, as well as for consultative work in the field of socio-economic development.

This experience has been very positive and advantageous for the teachers and has helped them develop their experience and knowledge in the field. For the assistant as well, it gives him the means of training on actual projects and of acquiring practical experience before starting with his specialisation. The student, too, has the opportunity to work on actual projects with the guidance of his professors. All in all, this experiment in Syria has proven to be successful and is now being perfected in order to avoid any possible adverse effects with regard to teaching architecture.

Mouline

Architecture is necessarily affected by technological, sociological and artistic factors and architectural activity is structured and ordered by cultural determinism that pervades human reality. Sociological determinism has great impact on both the artistic and technical aspects of architecture, and it informs architecture in its totality, with regard to its historical development, professional practice, social usage and institutionalisation as a profession.

As has been discussed, particularly by Professor Tekeli and Dr Serageldin, one is astonished to hear how much is demanded of the architect: he has to be able to decode the past, understand the present and project the future He needs the capacity to understand and express the desires of society. As an artist, he has to incorporate aesthetic and artistic values in his work; as a technician he should uphold local technologies while being open to new technologies. As a sociologist he should follow and even anticipate the evolution of social needs and social change.

In his work on the built environment, he should be able to harmonise the often conflicting demands and constraints imposed by a range of actors while realising an architecture that modifies the existing environment and brings to life an image of progress.

All this is too much for one person and an architect needs be an angel or a genius to be able to fulfill all of these functions. And the qualities needed for such a role cannot be taught and cannot be incorporated in any curriculum.

It is possible to define architecture as a profession, legally and sociologically, but as a vocation it is difficult to do so. The practice of architects, their training and social role differ widely according to countries where they work, regimes they work under, the system of education and training they go through, the organisation of the profession in the country they work, even according to their rank and status within a given system.

Here, I am not referring to the architect's competence, because such a notion is meaningless unless it is defined in relation to the conditions prevailing and the problems outstanding in the social and professional milieu in which he operates.

I am sure that the case studies to be presented in the following session will illustrate the sociological variety in the exercise of the profession, and they will help to bring an understanding that to be an architect is far from having an universal function and that all research toward the improvement of architectural education in the Islamic world should be based on an analysis of the specific needs and conditions of particular countries and regions and not on some ideal curriculum designed to train an angel or a genius for an architect.

Comments

Haider

My question is for Mr Houben with regard to earth construction. In your illustrations the bricks you showed were very red. Are all those bricks unburnt bricks?

Houben

Everything that has been built outside is just pure earth. We are using for our models partly fired bricks that are stronger than normal earth bricks; but the structure itself is weaker. This has been controlled scientifically under crushing devices, so that we are sure that when students are working on even one-to-one scale models in the training sessions, they are building structures that are weaker than those they will be building later outside. We are using fire bricks because otherwise we would have to stabilise the earth, make it of another material that can be used outside. However, the fire brick models are broken off every month or so and can be reused.

Diba

Regarding earth architecture there are certain problems that are as much psychological as technical.

I want at the outset to stress that earth architecture could give to a majority of homeless people shelter, a house and thus offer a response to a primary need and give dignity and decency to life.

However, in the area of earth architecture questions come up that I shall try to indicate here. These problems have been formulated by specialists and by people who live in earth constructions, in villages, and in many Iranian communities.

1) What is the resistance of the material (earth) *vis-à-vis* earthquakes and rainy weather? What is its cost relative to other materials? What is the ratio of quality-cost-conservation vis-a-vis different contexts in the world?

2) People living in earth housing sometimes would prefer not to live there. I cite the example of Abianeh that I visited four months ago. There is a factor of association of earth architecture with general misery. Most Western foreigners who visit earth constructions marvel at the spontaneity of these vernacular architectures, but the user/inhabitant does not always share this degree of enthusiasm.

The material (earth) should be compared in each country with the cost of other available materials The quality-price ratio should be studied before jumping to aesthetic considerations or other positive or negative evaluations.

If a material presents advantages in the sense of availability in a region, in adaptation to the culture and climate, if the quality-cost ratio is promising, then it may be useful in production and construction in a given country. Such study is indispensible.

Zaouch

I feel that Professor Diba's comment expressed a certain negativity which I think is unwarranted coming especially from an Iranian, given the fact that Iran produced some of the most outstanding examples of vernacular earth architecture to be found anywhere in the world. His question can be answered as follows:

1) In earthquake-prone areas, the first thing to do is to reinforce the constructs structurally, as with pillars for example; and the fact that the walls are of earth is really of no consequence.

2) Earth constructions have proven to be weatherproof, highly durable in areas with heavy rainfall. What is needed is to cover the walls and roofs well with siding. In the Lyon region, for example, earth constructions have withstood bad weather conditions for many centuries.

3) Earthen vaults dating from the time of the pharaohs speak for themselves as to the negligible effects of time on earth architecture.

Houben

What we wanted to do at CRATerre was to have a place where people, architects or engineers, can be trained on a professional level for earth construction. It is also a place where decision-makers can be informed about the pros and cons of the material, stressing all the time that we don't want to make a religion out of earth construction. This is one material out of many others, not necessarily the miracle solution to all problems; not at all. We make sure to give students from the very first day a rather disgusting picture of what to expect from the course so that those who want to drop out can still do so.

It happens quite often that when we do feasibility studies for big programmes like the Royal Bank, for example, and others, we are amazed at the results, that in this or that particular context a project should not be built with earth, but rather with another material, or only partially with earth, or only under certain circumstances. A careful preliminary study is absolutely necessary before any decisions can be made whether to use earth as the material for big projects. For example, there is the problem of seismic areas. The first rule, of course, is not to build with earth in an earthquake area. But there still remains the other problem that in many parts of the world people don't have any other material but earth; so there's nothing we can do, but use it as best we can. That is why we insist on telling students before they start the training programme that if they are expecting to hear all the nice and beautiful things about earth, they are in the wrong place. This is going to be earth, water and labour. It is true that in certain cases there is much to be admired; but this should not be the principle trait of the course. We must be realistic at all times.

El-Wakil

I would like to stress the educational aspect of the CRATerre programme which I think is more important than whether we should build in earth, in bricks or in stone. What is important in such a programme is to assess the cognitive development of the students which is probably the most difficult aspect to acquire as a student of architecture. As architects we have been taught to conceive of a three-dimensional space by dissecting sections and planes which define space, but in no way teach the student to think in three dimensions. The problem with many students in architecture is that they go through life thinking they can conceive in three dimensions; but they will never do this unless they can see that the three-dimensional space is in its existential form. If we're speaking of how to educate architects, then I think it is important in an architectural programme to teach students to think in three dimensions and conceive space as a reality, and not as some abstraction in drawings.

Houben

We are indeed the students' professional evaluator, who follows them year by year to see how much progress they are making and, in fact, it's tremendous. If you just explain on the blackboard how something works and then follow it up by an exercise, nothing comes out. But once you have been down to the workshop and start working with them, then they can come back and draw; and then return to the workshop to try it out and then come back again and make other tries. We have found that in fact most of the creativity happens in the workshop and not on paper. That comes later on, much later, in fact. It's really very difficult to get them to perceive space.

Comments

Haider

In the workshop on "Technology, Form and Culture" the question of values was raised more than once, but constraints of time forced us back to more "pragmatic" issues. We did not have time to discuss perhaps the most important technology because of its far-reaching effects and easy transferability: that of information, computers and even robotics.

Professor Mahdi Elmandjra writes in one of his papers the following: "The Report of the 1985 Annual Conference of the Grandes Ecoles in France states that 'the basis of the professional engineer of tomorrow will be that of technician, financier, organiser, psychologist, economist and philosopher.' In the United States the latest concern of academics is the lack of philosophers to deal with the paradigms and algorithms needed for research work on artificial intelligence."

In this regard, I would like to reiterate the recommendations put forth by the workshop on Islamic Culture, Modernity and Architecture and elaborated upon by Professor Abdelhalim that serious discussions should continue on the more fundamental issues of philosophy and values as they relate to man's potential for further technological advancements. As an architect and educator I am both fascinated and very concerned about the power of the new machines. While one is tempted to keep up with the latest, and perhaps rightly so, I believe that only a philosophical house-cleaning will prepare us to deal creatively with the latest developments in the field of electronics.

Abdelhalim

Our discussions throughout the seminar were either diagnostic, defining the ills as well as the potentials of architectural education in the Islamic world today, or prescriptive, attempting to outline visions, solutions, or raising questions about the solution. I feel that the diagnostic discussion showed the explicit aspects of the problems in architectural education today, but, a more implicit, and hidden aspects of these problems were not fully explored. I believe that the situation is much more serious and grave than most presentations have shown. In the light of this I want to comment on the conclusion of the workshops:

1) I fully support the proposal of Professor Arkoun to create a group to continue on the development of ideas and concepts initiated in the seminar. As well, I am in support of the proposal "Technology Workshop" calling for summer workshops which will coordinate among several schools.

2) I believe that the existing situation cannot be remedied through reform. A basic re-structuring is required, and a radical outlook should be taken. A new vision of architectural education is needed, not reform.

3) I question the wisdom of linking the proposed ideas to present educational institutions. I believe that a truly independent effort can be the only way to have some measure of success. Then let this independent group work in a real context of building activities.

Akbar

In the history of architecture many movements have affected the role of the architect. This seminar has resulted in workshop recommendations which point to a change, or rather, a return to the proper role of architects. As teachers and educational decision-makers, let us commit ourselves to initiating the necessary reforms in order to bring forth the new architects of tomorrow.

Zaouch

We are all witnessing a degradation of architecture in our countries and in the West. What are we to do? How can we redress all this? Education is the key to begin mending the twisted learning of our time. The problem, I think, lies in the misuse of technology. Traditional technologies have developed an architecture and craft to be admired by all, whether they are large monuments or humble abodes. When only traditional technology existed, when there was not this amazing opportunity to multiply things by the millions, when man wasn't motivated by greed, there was a natural harmony in society.

Modern technology has distorted this heritage not because it cannot produce objects of quality, but because it is not motivated to do so, but is exclusively oriented towards making profits in the shortest possible time. This extreme mercantile attitude has degraded the whole of the cultural gains of the previous centuries.

It is really the spirit behind technology, high technology, that should be reconsidered. I do not really believe that anything concrete could be achieved through governmental channels; they are too big and have responsibilities that are beyond their means, especially in the third world and Islamic countries. Only through individual and private foundations can we help to reorient this potential because today we have much more potential than when we only had traditional technology. I can only see hope coming from private individuals and foundations such as the Aga Khan Award, which we must congratulate for all its efforts.

Architectural schools should prepare future architects to stop the nuisance imposed on society by an architecture which does not respond to harmonious criteria and which attacks human beings by forcing them to ilve in a degrading environment.

A balanced environment is therapeutic. Like music or art, it improves the morale. Architecture should maintain environmental balance and even enhance it. It is one of these rare disciplines where man working with nature becomes the creator in space; his work like a mountain imposes itself on nature, magnifying it or degrading it.

Mobashsher Ali

In order to get something done the first step is to create an awareness of what it is that has to be done. This, I believe, the seminar has achieved. The next step would be to prepare the necessary materials for implementing the goals set out in our workshop discussions. I therefore propose that the following steps be taken:

1) Publication of a journal for educational institutions;

2) Preparation of relevant materials by different study groups outlining the principles and theory of design found in Muslim architecture for the purpose of developing evaluation criteria;

3) Collection and dissemenation of information on indigenous material and technology.

D. Pamir

One of the major dilemmas that we confront in the third-world universities is what we may call "entrapment" of knowledge. Most of the time ideas that are generated tend to be confined to these institutions as theoretical exercises, never reaching society to be tested in reality. Along with further supporting academic activities, the Aga Khan Program can contribute towards ideas or projects of value to be actually realised and demonstrated.

Saad

Educated persons are equipped to solve new problems in new ways, while trained persons and artisans adapt inherited solutions to new problems. Education precedes training or there is no quality. Without technology, architecture remains as liberal arts. With technology alone, it is a craft. With both, involving the whole person and focussed on people, it is both an art and a profession.

There has been an over-emphasis on the quantity and not on the quality of graduating students during the past few decades. The large expansion of new programmes and increased enrollments are a response by academic institutions to the demand by the profession for the development of a large labour pool This growth boom is ending — if it has not already ended — and we must now pay particular attention to acheiving and maintaining quality in our universities. Small and inefficient programmes will be vulnerable to elimination. Extremely innovative programmes will be necessary to survive the challenge facing the future educational system.

I wish to dwell on five points:

1) *Goals and objectives:* Architectural education should impart a skill, not a capacity for passing examinations. We ought to define the social role of the architect, his relationship to other professionals, to industry, and to clients and, thus, to the community at large. Once we identify these essential spheres, the route to take to prepare the graduates will become clearer. Graduates should be prepared to meet the demands of the local professional practise. We should constantly look for methods that can evaluate our educational objectives with some degree of clarity and reliability.

2) *School and educational system·* One needs a school of a size and status sufficient to justify a range of expertise among staff, good quality staff and adequate space, equipment and facilities. The educational system should help to meet the goals of a better architectural education. Generalised goals can be summarised as follows:

- To develop a responsive curriculum which will allow graduates to enter any of the several realms of contemporary practice.
- To increase the opportunities for applied research afforded by the school's resource associations.
- To develop flexibility within the school to allow for the pursuit of individual interests.
- To develop curricular association with other disciplines to facilitate a mutual understanding of the necessity of interdependence in the approach to environmental problems.
- To ensure that the school offers challenges to the students while at the same time meeting accreditation standards.

The personality, the feel of school is as important as the curriculum We need change in the direction of self-directed study. This means a shift from learning to understanding.

A curriculum should also reinforce the linkage between school education and real life by increasing the period of practical training. A curriculum must also be adapted to local physical, societal and cultural conditions.

The course of study in the field of architecture currently tries to crowd too much learning from books into too short a span of experience The amount and the scope of technical information made available to students is beyond reproach. The value of lectures, as a method of acquiring expertise, even when integrated with studio design work, seems to be open to question (John Carter, "What Can Be Done about Architectural Education?" *The Architectural Journal,* 14 April 1976, pp. 743-761).

3) *Students:* Are we preparing students for the profession? We have a responsibility to society, to clients and to the future. How can we prepare students for this responsibility? We must realise that many students do not so much choose architecture as their discipline as fall into it by chance. Students enter the programme with particular qualities. We need to ask whether the curriculum addresses individual characteristics or ignores them. Admission procedures must recognise individual qualities of students.

4) *Teaching Staff:* The quality of a professional programme is dependent on the work and prestige of the educators. We should be concerned about the ability of current educators to establish or maintain positions of influence within and, especially, outside of the professional programme. Current problems include the lack of a traditional scholastic focus in referred journals; the interdisciplinary and collaborative nature of the architectural profession, which does not generate new knowledge but de-

pends on the output of other disciplines; the small size of the programmes compared to other university units, which means that the constituency lacks institutional clout, and the diversity of practice, which reduces the consumer value of work

Teaching staff should be of high calibre and they should be allowed to practice their professions outside universities. More experimentation, innovation, publication and critical evaluation is necessary for the improvement of the basic qualifications of teachers, and part of this is surely advanced training. Post-doctoral courses for educators should be encouraged. There is also a need for teacher-training workshops, honours' programmes, travelling fellowships and visiting lectureships. Priority must be given to the amount and quality of research or creative performance that is essential to the growth of a programme. A programme that is flexible, imaginative, innovative and engaged in conducting significant research is necessary to build the self-confidence of the teaching staff.

5) *Facilities and equipment* The school should maintain its own library, including slides cross-referenced by a computerised catalogue system, and audio-visual equipment. A model-making workshop, a photo lab, an art-form studio, an environmental control lab, and a planning workshop are useful in any school of architecture. Facilities should complement the programme and the student should maximise the use of such available facilities during design and planning problems. Full-time librarians, technicians and assistants should help the teachers and students with research and lecture/presentation preparation

How does the architect influence the environment and thus the quality of life? The quality of education has a strong impact on the quality of the profession, environment and life. The architect can either help create a balance between natural, built and social environments or contribute to the deterioration process of an environment already under stress.

Traditions and customs are valuable in this respect. Some how, the opportunity for "emphasis of difference" must be provided Travel as an extension of experience and independent study as an extension of instruction are proposed as devices of the greatest significance educationally, environmentally and professionally.

There are many architecture schools without a leading trend, ideology or pattern. Both teachers and students seem to be fascinated by the glamour of recent Western styles. In the absence of a clear definition of the architect we need, or what kind of environment we want to live in, more graduates will continue to be frustrated, misled and, to a great extent, professionally sterile.

I tend to agree with Carter about recovering the idea of de-schooling architecture education De-schooled architecture education should be developed parallel to the present educational route. Carter concluded that in the schools there should be growing attention to the real world outside; in practice there should be a lowering of barriers between architects, contractors and the materials industry; and among students there should be an abandonment of the belief in the mystique and social exclusiveness of the professional man. De-schooled architecture education attempts to acknowledge the old apprenticeship form of training. There is no ready-made recipe for the proposed de-schooled architecture education. The old idea is genuine but will require joint efforts to redefine it.

Lolah

I would like to make the following recommendations and begin by pointing out that it is necessary:

1) to modify architecture education programmes so that they include Islamic architecture and Islamic cities;

2) to make use of the artistic and cultural values of that architecture in order to define a characteristic identity of contemporary architecture;

3) to guide the students' work and projects towards the theme of the patrimony of architecture;

4) to emphasise the need to rehabilitate this patrimony;

5) to revise and re-utilise certain historic Islamic monuments in order to satisfy vital contemporary needs.

We must also create a high-level commission of architects, thinkers and urbanists from the universities in the Islamic world to carry out an in-depth study of the principles and concepts of Islamic architecture, to analyse its components and to highlight its characteristic features in order to offer visions and orientations that could assist the revival of a contemporary architecture with its roots in the past, but avoiding all forms of imitation.

This applies just as much to Islamic cities, where a study should be made defining their principles and urban criteria, explaining the nature and the structure of the Islamic city, its space and time-related characteristics, eventually deducing principles and new concepts for the definition of the contemporary urban setting.

We need to exchange experiences, publications and research among the architectural faculties in the Islamic world, and to encourage creativity in Islamic architecture by organising competitions to reward the best projects of architecture and urbanism.

We need to encourage and support Arab-Islamic and foreign research centres that assist the realisation of these goals and support the improvement of Islamic architecture to create a contemporary urban environment.

We also need to set an annual work plan in which the universities in the Islamic world would take part to study topics of common interest in contemporary Islamic architecture and urbanism, and to publish and distribute the results.

We must start scientific journals at the national level by publishing academic projects and research by students, so that these can be exchanged among the countries of the Islamic world in order to harmonise

intellectual approaches in the domains of Islamic architecture and urbanism.

Djerbi

The need for reference materials and theoretical studies related to Islamic architecture has already been mentioned. There are at present in the Islamic world many architectural schools which are revising their programmes and their methodologies to open up to their own environments. However, they are still handicapped by the lack of scientific elaboration of structured theories that could serve the educational endeavor.

I would like to recommend that parallel to the current Aga Khan Award for Architecture, a similar award be designated for theoretical research to stimulate professors and researchers to produce reference works on Islamic architecture and structure new instruction. Such an award could have very positive effects for the practice of architecture, because it would make it possible to train future architects on the basis of truly established knowledge and not just based on an intuitive and empirical approach

Moreno

I would like to thank the Aga Khan Award for Architecture in the name of my Spanish colleagues and my own, for inviting us to attend this seminar, and for choosing to celebrate it in Granada.

I fully agree with the conclusions and would like to congratulate us all for what I understand as a justified demythification of technology. I would also like to insist on the preservation and improvement of the crafts. Their existence is adequately valued only when one faces the impotence created by their disappearance. Theory can be learned, technology can be bought, but the crafts, once they are lost, are impossible to recover because the social structure which supported the apprenticeships on which they depend disappears also. The work of the architect is performed with the help of crafts. The problem of building shelter according to local conditions is often solved with methods which have been tested throughout the centuries.

Technology is a good thing when it solves problems, but not when it causes them, or when it solves the ones previously originated in a fictitious way. The automobile industry is a good example of the latter, with the new models put out every year.

I think that a very valuable contribution of this seminar, if not the best, would be to encourage Islamic countries to re-evaluate positively their cultural heritage of vernacular architecture that is still alive and therefore still able to generate a valid architecture.

I would like to suggest to this seminar, as I will suggest to the High Council of Spanish Architecture Schools, an undertaking that will show the problems caused by the lack of professionals in construction, using as an example the Albaycin quarter of Granada, which you have seen and which is part of our common cultural heritage.

Ruiz

I would like to stress the following points:

1) Technology is an irreversible fact that is to be accepted and incorporated into new designs. This is not contradictory to the traditional values of Islamic architecture, but, rather, should be considered a challenge that Islamic schools of architecture must confront positively.

2) The history of Islamic architecture in the world and the specific architectural history of individual countries and of vernacular architecture must be mastered by students, because their work will also be part of an historical matrix.

3) Architecture must be taken out of its ghetto. It is time to introduce architecture education at every school level, primary and secondary Otherwise, society, which finances construction, will not demand quality architecture, and buildings will not be constructed in accordance with architectural standards.

4) Schools of architecture should encourage the study of the constant formal values in the

history of Islamic architecture as a source of inspiration.

5) It is imperative that crafts be preserved, at least at a compatible level with the implantation of technology, subsidised and protected by the state. Once the crafts disappear, as they have in Spain, it will be more difficult to recover them than it would have been to preserve them in the first place.

Diba

What I want to propose is the creation of a centre for research and documentation which would help bridge the gap between philosophical concepts and Islamic culture within the framework of architecture. This would be possible only with a multi-disciplinary group of specialists which would have to include historians, architects and artists who would work together to create a theory of architecture in the Islamic world. The findings of the centre could be published for wider dissemination and used as teaching materials.

El-Wakil

To speak of the number of students we have to cope with in architecture courses, as Professor Abdelhalim has mentioned, is, I think, of secondary importance to the problem of adapting our training programmes to the particular economic needs of each country. It is irrelevant to give figures. Do we really need thousands of architects in Egypt? They can no longer find jobs.

Unemployment has become a universal problem today; there is the problem of jobless youth in Europe. It is a major concern for us in the Third World and should be thoroughly investigated. Many of the educated people in third-world countries are forced to take jobs as ushers in hotels or as tourist guides. I believe this problem is relevant to our discussions on education and needs to be seriously considered.

It has been calculated that 30 million housing units will be needed by the year 2000. There is yet another statistic stating that 95 per cent of the built environment is done without architects; that is, the 30 million housing units will be built by contractors hired by the government, and perhaps only one architect will be involved, greatly diminishing the chances for employment for other architects. Since most of the built environment will be done by the people, then we need to find ways to train the people and reorient our architecture programmes.

Porter

I would like to make a brief comment on that question. We noted in our workshop that there was a great disparity between the effective demand of society for building and architectural skills, and the needs of society for building in order to meet its social obligations.

This translates into a proposition that perhaps the wrong jobs are available and not enough of them, and that there ought to be more jobs of different types using architectural skills to deal with a much wider range of problems in society. Now this poses a dilemma for the architectural education establishment. On the one hand, it could decide that, given the lack of effective demand for its graduates, the obvious thing to do is to close down most of the schools and merely fill those jobs where demand remains. The other approach, and the one that I feel has emerged from this and other conferences, is to conceptualise society's needs in ways that we think are just, right, and that deal with real problems, and then to redeploy the teaching enterprise in such a way as to produce skills to meet those needs.

Schools have the double obligation both to reconceptualise demand which would correspond to society's real needs and to train people who can meet those needs. Now, this means that indeed we may be producing students for whom there are no jobs at the outset. But on the other hand, there is, I think, a dynamic which is set into motion by training people with greater social awareness, with highly developed skills and who demand to work on problems that they regard as urgent. The dynamic will be set into motion because those jobs will be created somehow. It will take a lot of work on our part, as well as on the part of others, to persuade bureaucrats, industrialists, and leaders in all fields, to deal with these problems and to create a part of that demand.

Barrada

It has been implicit in our discussions that the objective of architectural education is to qualify architects capable of producing "architecture" (in whatever way it is defined). That is, architects are *means*. It is important to introduce the notion that architects are individuals or are *ends* in themselves: to have the knowledge and values not only to be a "good" architect but to have the pleasure of being an architect or being a person who can use architectural education in a pleasurable way as part of a "whole" approach to life whatever he actually practices.

Ahmad

Islam is the religion of rationalism and sound common sense, independent of any local factors, sound for all mankind at all times. But it certainly came with a mission to modify existing socio-cultural situations in specific locations. Hence, any attempt to study the effect of Islam must start by understanding cultures prior to their contact with, and influence by, the new faith. This applies to architecture as it does to any other aspect of life.

Islam should be taken in its entirety, since Ibrahim and Adam, and not confined to the Muhammadan message. The notion implicit in many (mainly Arab) writings that nothing of consequence existed before Muhammad

is naïve and must be dismissed in any serious discussion.

In our case it is the "Arab-Muslim" context or framework within which local (Arabian, Egyptian, Sudanese, Maghribi, Yemeni, *or* desert, coastal, highland, Mediterranean) architectures evolve out of different perception patterns, aesthetic values, materials, technologies. This variety and heterogeneity must be regarded as an asset in developing local architectures with identity and spirit, and in rejecting standard anonymous styles as well as standard, often redundant, elements from traditional Arab-Muslim design.

Difficulties arise from the *clichés* and faulty notions from which Arab scholars as well as foreigners suffer when the relevant issues are discussed, both those who are biased in favour of the culture and those against it. Our curricula have to be reviewed with this in mind. There are some misinterpretations of the faith. Issues like polygamy, veiling of women and segregation of sexes, which do have a reflection in house design, are not basic to the faith. Monogamy and mixing of sexes are actually basic. Individuality, as a concept basic to the Muslim, seems not to be properly understood in the established *salafi* thought and has sometimes been fought for no good reason. Development is inhibited by views of "aesthetics" as "standards" with the resultant imposition of certain forms in our built environment, even where they are not only irrelevant but often give a physical expression conflicting with intended spirit, as in the case of certain static façades and spaces used in airports and stadia. It is inhibited also by the supposed prohibition of some visual arts, seriously restricting the scope of the designer. The distorted image of the Arab and the Muslim in European thought (violence, over-sensuality, inefficiency and apathy towards work) has had a prominent role in this state of affairs. So has an obsession with the past at the expense of a better understanding of the present and the future, and an obsession with form at the expense of content. Some issues have been over-emphasised, like the Arabs' basic contribution to medieval technology. Still others have not been duly recognised; the visions of al-Farabi have not yet taken their place alongside those of Howard's, Wright's and Le Corbusier's.

It seems that for a creative architecture to re-emerge, architectural education has to be steered first towards an understanding of our cultures before the Muhammadan message, then understanding the essence of Islam as a dominant modifying factor, and playing down the *clichés,* being aware, without undue exaggeration, of our contribution to the various fields of knowledge and recognising the rich variety of local cultures and subcultures so vital to genuine design, while never losing sight for a moment, of present day realities.

Norberg-Schulz

It has been a rewarding and inspiring experience to find so many people dedicated to the task of improving man's condition in life, to experience the spirit of collaboration present at this seminar and, last but not least, to understand more fully the noble activities carried out by the Aga Khan Award for Architecture. In contribution, in order that this spirit may prosper, I would like to offer a few suggestions

I am convinced that the field of architecture and the community would greatly profit from getting *a coherent theoretical basis.* Such a basis is today lacking, a fact that has also come out in this seminar. Practice, history, criticism and teaching can only reach beyond mere improvisation, if a *theoretical tool* (method), common to all of us, becomes available. I seriously believe that it is possible to work out such a tool, that is, to show that the field of architecture does indeed have a general structure. This structure is rooted in life itself, the personal functions of orientation, identification and memory, as well as in the social functions of meeting, agreement and withdrawal. In turn, these functions determine the structure of architecture, which are: spatial organisation (orientation), built form (identification), and type (memory), all of which become manifest on the environmental levels of city (meeting), institution (agreement) and house (withdrawal). This outline of the general structure is related in everyday life to a particular local/temporal situation, that is, to a *place.*

Life "takes place", a basic fact that is the starting point of architecture. We cannot separate life and place. (See my book: *The Concept of Dwelling,* New York, 1985). Thus, to teach architecture means to make the student understand the *general structure of the field,* as well as the *local/temporal* situation. Only with this basis will the architect be able to fulfill the purpose of architecture, which is to help man dwell in a certain place

Human identity is rooted in places, and therefore we all say: "I am a Roman", "I am a New Yorker ..., etc." As the art of place, architecture brings forth the world as what it is. It expresses and communicates a certain life which "takes place"; architecture may, therefore, be considered a language As a language, architecture tells man *where* he is, *how* he is and *what* he is The language of architecture, however, is not a "code" based on mere convention or habit, as is maintained by semiologists; it has an existential basis. Therefore, architecture education ought to be based on learning the language of architecture, just as human development depends to a great extent on learning one's mother tongue.