Islam, Muslims, and Modern Technology

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In this interview, Professor Seyyed Hossein Nasr highlights the impact of modern technologies on human habitats and ecosystems. The destruction of environment by modern technology is seen as one of the most serious threats faced by humanity. Modern technologies have also replaced traditional methods of making objects of daily use. This replacement has serious consequences for the spiritual health of humanity. In discussing the impact of modern technology on the Muslim world, suggestions are made to preserve various aspects of Islamic civilization.

Keywords: Modern technology and its impact; Muslim world and modern technology; aspects of Islamic civilization; role of machine-made objects in the destruction of natural balances; traditional crafts and their spiritual significance; Islamic urban design; modern technology and Islamic civilization.

In this article, modern technology refers to technologies which have been developed during and after the Industrial Revolution mostly in the West and which have now spread all over the world. There are two very different dimensions to this discussion: one pertains to the actual situation that exists in the world, that is, what is going on now; the other pertains to the question of what we believe *should* go on as far as the Muslim world is

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concerned. Let me give an example. There is no government in the Muslim world today which does not support any form of technology that brings with it either power or wealth. No one resists any form of technology that is believed to bring certain conveniences, like the cell phone which has spread like wildfire all over the world, and which has many detrimental effects upon the brain, as many studies are showing, though most people usually do not care too much about such negative factors—at least for now.

So, at that level, discussing the relationship between Muslims and modern technology is not efficacious in the sense that whatever form of technology comes on the market—and it is usually from the West, and occasionally from the Japanese and a few other peoples who invent new things—if these new technologies are perceived to bring wealth, power, or conveniences, they spread very rapidly among Muslims as elsewhere and it is no use talking to them about the danger of their spread with the hope of having any positive influence.

But there are other questions which can be discussed, for instance, the destruction of the environment which modern technology is causing. Then there is the dimension of this issue concerning what *should* take place. What should be the Muslims' attitude toward modern technology whose negative effects are obvious? It is about this dimension that I wish to say something and this is where the deepest issues lie. Otherwise, if we go on debating whether this particular country, or that particular country, has or is going to have or should have knowledge of nuclear engineering or certain types of lasers or this or that, this I think is a wasteful effort at the present moment, because we, who are supposed to be the intellectual figures of the Islamic world, who are supposed to clarify these issues, cannot do much at the level of action by Muslim governments and companies in relation to technology. There is, however, something very important that we can do and that is to create an understanding for the future as far as these issues are concerned. We are responsible for creating an awareness of what is really involved for Muslims when it comes to the adoption of modern technology. And in this domain, in fact, a number of people in the West have a much greater awareness of the dangers of technology than do people in Asia or Africa, who are on the receiving end of modern technology, and this itself is one of the major issues that should be discussed.

In light of this, I think we should turn to the issue of what the problems are which modern technology poses for Muslims, not only as ordinary human beings, but more specifically as people who belong to the

Islamic religion and are rooted in the Islamic worldview; then to try and analyze these problems, and in light of that, to discuss what can be done, if anything, and what Muslims *should* do.

First of all, it is important to define terms. The word technology comes, of course, from the Greek word *techne* which means "to make" and is related to the word for art, which comes from the Latin word *ars*, also meaning to make, and both are related to the word *ṣanʿat* in Persian, or the word *ṣināʿah* in Arabic which we still use in these languages for both technology and art. Quite interestingly, the division has not yet come about for us, as it has in the West, where art is one thing and technology another, despite the fact that there are some modern sculptors who go to junkyards and put various parts of cars together and call it art. That is a minor matter.

What we have in the modern world is a situation in which technology in the modern sense is the source of most of the objects that surround human life, whereas, before the Industrial Revolution, when things were made by hand, the products of arts and crafts surrounded man's life. This is very important to understand. There is a qualitative difference, although the root of the word "technology" goes back to a Greek word with a very different meaning.

A very important event took place in the Industrial Revolution that completely changed the nature of technology. Machines were made as means to create objects for human beings in Western Europe and gradually elsewhere and they soon replaced human beings in many realms. Now what was the significance of this change that occurred? Let us take a concrete example. There were water wheels in ancient times and complicated clocks created by al-Jazarī and many other Muslims, but ordinary objects of human life were still made by human agents. Moreover, there is a very big difference in the techniques used to make ordinary objects by hand and the ways of modern technology. Of course, there always was some technology like the water clock in Muslim lands, but it always remained secondary and peripheral. What surrounded life was the product of art and had a spiritual significance. It is very interesting to note that the very complicated machines made by Muslim scientists were considered mostly for play and amusement. They were not seen as a means of increasing production and serving economic purposes. This is very significant.

So there is a qualitative as well as a quantitative change that took place when the Industrial Revolution occurred. A number of eminent

Western writers, going back to William Morris and John Ruskin in the nineteenth century and Ivan Illich and Jacques Ellul in the twentieth, wrote about certain negative aspects of modern technology that Muslims should know. Illich wrote a remarkable book, *Tools for Conviviality*, and the French author Jacques Ellul wrote *The Technological Society*. Ellul has recently turned against Islam because he does not understand it, but he has produced some important and profound critiques of modern technology in its relation to the human soul, the human spirit, and human society.

In the 1970's, I invited Ivan Illich to Iran and on purpose I organized a session that involved some of the higher authorities of the land who were in charge of various activities which required technology from the department (ministry) of national economy, the department of industry, and so on. Ivan Illich gave a talk to them on the significance of traditional technologies in contrast to modern technologies. He gave a simple example of a water closet. He said that if all the people of Asia and Africa were to have the same water closets as do the people of the industrialized societies in the West, that fact in itself would destroy the water system of the whole world. Everyone was shocked. These were all highly educated Iranian administrators, some on the ministerial level with advanced degrees from the best Western universities, and precisely because of that they did not have the least notion of what Illich was talking about. We have the same situation in Pakistan, in the Arab world, and in many other Muslim countries.

Now what we have to do first of all is to understand the difference between traditional technologies, which were an extension of our hands, senses, and other parts of our body and which, like the body, were subservient to the soul, and the modern machine which dominates over the human being; an example may explain this: if you were to go to a part of the Muslim world where we still have traditional craftsmen, let us say Iṣfahān, Fez, Damascus, or somewhere like that, you will see a person sitting with a simple hammer and a simple chisel and producing remarkable geometric patterns in stucco, stone, or wood. Traditionally, the know-how and the art resided within the being of the craftsman and the tool was very simple. But if you go to a Detroit factory where they are producing cars, the worker there has very little know-how—he just presses a few buttons. All of the know-how is in the machine. In a sense it is a transfer of human knowledge and art to the machine. And now we have the second step of the same process in the form of the computer, where knowledge in the

mind has been transferred to the machine. I have many students who can no longer spell because they rely on a computer to spell for them. They cannot do any math because the computer computes for them, and gradually the computer empties the mind as the machine emptied the dexterity of the hand, the eye, and other parts of the body of the artisan and craftsman.

Now, that is what modern technology does. Modern technology is not simply the continuation of the Persian waterwheel or some medieval contraption. It changes the relationship between the human being and the means of creating things. Therefore, it takes away from the human being's creativity—it takes away the creativity and the spiritual content of work. The only creative part of modern technology is done by those engineers who design the machine. For someone who is designing an airplane or a ship or something like that, yes, there is still creativity in that work. But for those who make things, especially in mass production, objects that are made no longer involve creativity, which is why work in a modern factory and most other places has become so boring. That is why you have to have long vacations. In traditional societies, you did not go on vacation. Have you ever thought of that? Vacation was integrated into life. Weekends were not necessary like today. Nowadays, many people say 'I hate Monday', 'thank God it is Friday'—this sort of thing. This attitude exists because work has come to be emptied of spiritual content, thanks to the machine.

All of these negative effects on human beings are consequences of modern technology. The first thing we have to understand is that this technology is not neutral, that is, claiming that if you are good, you make good use of it, if you are bad you make bad use of it. That is not at all the case. Of course, if you are good and make good use of it, you do not drop a bomb on somebody's head—that part I accept—but even if you go for a drive down the road peacefully, so-called peacefully, this gadget, this automobile, is a major source of aggression against nature. Now of course we realize, or I hope we realize, that global warming is destroying many ecosystems and so many other things and that much destruction comes from the so-called peaceful use of the automobile. Therefore, it is not simply a question of good use and bad use of technology. There is something more involved. Technology itself brings with it a certain technological culture which is against the soul of the human being as an immortal being, and is against the fabric of all traditional societies which are based on the spiritual relationship between the human being and

the objects he or she creates, that are based on an art that is creative and reflects God's creativity, as the Supreme Artisan. God is called *Al-Ṣāniʿ* in the Qurʾān; He is the Creator, the Artist, the Supreme Artisan, and He has given us the power of creativity which we share because we are His *khulafāʾ*, vicegerents on earth.

In Islamic civilization there was no line of distinction between art and technology, between the high arts and the low arts, between the so-called fine arts—this terminology is total nonsense from the Islamic point of view—and industrial arts. What is fine arts? All such terms were created in the West including "beautiful arts" (the French *beaux arts*) because art as the means of creating objects for use in everyday life was taken away from human beings in the Industrial Revolution and replaced by, for the most part, ugly products of the machine. In traditional civilizations there was a continuous spectrum of creation which was always related to God, from the making of a simple comb to the composition of Ṣūfī poetry and everything in between; everything was related to God and reflected His quality as the Supreme Artisan on the human plane. Now modern technology destroys that relationship. Whether or not the person driving a car is a pious person, who uses the car to go to the masjid to pray, or go to a night club, the destruction of the environment is there and the making and driving of the car—which is a machine—are cut off from the divine prototype of creativity.

Many of us think that the sacred character of life can be preserved simply by saying our daily prayers. I wish it could. But those are simply the pillars; the rest of life also needs to be made sacred. In Islam every activity has a symbolic and sacred aspect. In agriculture, for instance, when one cultivated the land, the whole process of sowing seeds and cultivation has a spiritual and religious significance, whereas now with mechanized agribusiness this spiritual dimension of agriculture is all gone. The use of animals in transportation necessitated a relationship between the human being and the animal. There is the *ḥadīth* about treating animals well. That attitude is mostly gone and of course the fact that animals are used less for transportation does not mean that they are better treated. Let us remember how many species disappear and become extinct everyday as a result of the use of modern technology or through painful experiments performed upon them.

The structure of our traditional cities was one of the greatest artistic creations in human history. I mean the Islamic urban design, of which we can still see remnants (*al-ḥamdu liʾLlāh* they have not completely

disappeared in cities such as Fez in Morocco, Yazd in Iran, in parts of Iṣfahān, in parts of Damascus around the Umayyad Mosque, in the old quarters of Cairo, etc.). These urban designs were meant to create a human ambiance in which religion, commerce, education, and daily living were all combined and integrated into a whole in which unity dominated over multiplicity. And what we today call amusement, or having fun or entertainment, which is such a big part of modern society, that also was integrated into life. The reason that amusement (including sports) has become such an important part of today's world and treated as an independent reality is that work is so unentertaining and so depleted of the sense of the sacred, thanks to the modern machine. It is so boring for most people that entertainment has to become a major independent event to make life bearable. It has practically replaced religion for many people.

I have said all of these things in order to prepare the ground for Muslims to understand the nature of this technology and not to be naïve and think that it is simply neutral. It is true that sometimes we have no choice. God has placed me at this time and place in history where I cannot get on a donkey and go to a *madrassah* as my ancestors did in Kāshān. There are no donkeys here and the roads are long. I have to use a car. God knows in what condition we are in this world. Yet, this does not mean that we should be blind to the consequences of the technologies that are involved and adopt every form of technology that comes along just because it is out there.

Besides the loss of subtle spiritual elements, some of which I have mentioned and some of which I have not, modern technology is literally leading us to our death. It is as simple as that. We are witnessing the destruction of the natural environment on a vast scale and no amount of putting our head in the snow and trying to forget what is going on is going to solve the problem. If the Muslim world, China, and India really take off industrially and become as industrialized as, let us say the United States, and have the same rate of consumption as does America, then the whole ecosystem in the world will probably collapse or be radically modified. Everybody knows that. Already without having reached that point, numerous places are at the verge of catastrophic destruction—from the coral reefs of Australia to the Amazon forest. Every intelligent person knows these facts, but few want to pay attention to them. I think that it is the duty of the Islamic intelligentsia to draw attention to this situation. This issue is, from the point of view of our earthly life, much more impor-

tant than any other single issue in this world. I am not talking about the spiritual matters which, from the Islamic point of view, are the most important, of course, in human life, but of issues such as poverty, economic crises, political oppression, dictatorships, revolutions, all of these things: none of these poses as great a danger as this problem of the destruction of the natural environment, because those things may gradually be solved, whereas if we do not turn immediately to the issue of environmental degradation caused by modern technology, we are not going to be around to solve anything else unless God intervenes in nature in ways that we cannot think of—that is in His Will—but from the human point of view, the way we are going, we have just a few years left to completely change the way we live, or we shall perish.

Most people in the West will say, "Ah! The solution to this crisis is new technologies to replace old technologies." It is here I believe that they are completely wrong. What has to be done is to revive the sacred view of nature which is totally opposed to how modern technology views nature. What Muslims have to do, in fact, is not to employ every new foreign technology that comes along, but only use technologies which have less negative impact on the environment. Yes, I agree, there are relative benefits in, for example, having factories which do not create as much smoke as before, but that is minor compared to something much more profound and that is the general negative impact of modern technology upon the environment and upon the souls of modern human beings. Modern technology creates a negative impact, and this impact increases not only tenfold, but up to hundredfold with many new technologies, so that the more technology we have normally, the more negative of an impact we make upon the environment, and also upon minds and psyches.

We have to change our whole way of living. We—and I mean everybody on this planet—have to change in a basic way and think of technology in another manner. This is where the Muslim world can play a positive role. Let me say a few things specifically about Islam. Educated people in the Muslim world want to be technologically like the West, including, unfortunately, even those who are pious and do not like the West, and even those who are so-called 'fundamentalists'. When it comes to technology, they are as Western as the most modernized Muslims. You take the most secularized Turk in Istanbul or from some other city, and the most fundamentalist Muslim preaching in some mosque in Saudi Arabia; their attitude toward technology is probably the same, which is a remarkable comment to make when you consider their very different interpretations

of the Islamic worldview.

Now, that has to change. Muslims have to realize what we cannot and should not do in this realm. There is no choice for a Muslim community in having or not having telephone or electricity. Let us, therefore, not talk about things which cannot be done and technologies that cannot be avoided, even if we realize their negative aspects. Let us talk about things which *can* be done.

The Muslim world can still preserve many things. First of all, in the field of agriculture, for instance, genetic engineering is a dangerous practice to be avoided if possible. In countries like Pakistan and Iran, which have major agriculture sectors, we must strive to preserve as much as possible, and it is possible to preserve the traditional modes of agriculture production by keeping small farms, rather than changing the whole method by adopting large agro-businesses, using genetically engineered seed, taking over the traditional farms; these agro-businesses are hardly the hope for providing food for the whole globe as is usually advertised.

Secondly, it is possible to preserve to a large extent the traditional urban design of Islamic cities and the technologies which affect human relationships, modes of transportation, the use of energy, and many other forms of technology. The preservation of traditional Islamic architecture and urban design can play a major role in preserving something of traditional technologies and a saner way of life.

We must not be like a sleepwalker who accepts whatever comes along without even thinking about its consequences. It is paradoxical, just to take the case of cell phones that have spread like wildfire over the earth in the last twenty years. We even have people circumambulating the Kaʿbah while their cell phones are ringing—this is a blasphemy of the worst kind that you can imagine. These cell phones have so many negative medical effects, but many Muslims are just blindly following the trends that originate in the West. But the irony is that in the West, at least a small number of people have their eyes open, whereas the Muslim world is blindly copying whatever comes from Western technology. Even those who are against the West have a deep trust in Western technology. They think that whatever technology comes from the West must be good. We need to have a greater sense of discernment in this matter.

That does not mean that tomorrow morning we can stop having anything to do with modern technology. Some people in England have recently created small villages which are completely pre-industrial, with natural agriculture, natural water, and so on. Alas, I do not think that

many in the Muslim world would envisage such a thing at this time.

There are, however, many wise choices which we can still make and are not making, for example in the use of traditional technologies in making objects such as carpets and utensils, traditional irrigation systems, traditional use of energy in relation to architecture, and so on and so forth. More generally I believe that we must do everything possible in the Muslim world not to allow our tradition of making of things in an artistic way to be totally destroyed. The weakening of this tradition was one of the major results of the impact of colonialism in the nineteenth century, parallel to the destruction of our scientific tradition and of much of our educational system. The arts have not been completely destroyed but they have suffered a great deal.

Let me give you an example: the Persian carpet is a very important element in many homes. It is true that for the most part its dyes have become chemical, imported originally from Germany, since the 1920's and 30's, but still carpet making remains a traditional artform. It is woven by artisans and has a spiritual significance. The carpet plays a very important role in traditional Islamic society because we sit on the floor, pray on the floor, eat on the floor, sleep on the floor. A carpeted space becomes the living room, the dining room, the prayer room, and the family room where everyone sits together in the small traditional home, which is the case for the majority of Muslims. In many places, say in a village in Afghanistan, many have one room, where they do everything. The same is true in Iran, Pakistan, Morocco, everywhere. Now, we must not allow the traditional carpet to become the industrialized carpeting that we have in the United States, though such an industry makes money. Unfortunately, some carpet factories have even come to Iran, which is the most important country for the making of carpets. We have to prevent such destruction of the traditional crafts to the extent possible and this is an instance where the preservation of traditional technologies *is* possible if there is the will. We have to try to preserve the making of hand-woven cloth. A lot of the things that Gandhi said that everyone scoffs about today, even in India, where he is the father of the nation and yet nobody wants to listen to what he said, were completely true. Once you destroy over 100,000 Indian villages whose economy is based on recycling, what is left of India? The same holds true for us.

The wonderful hand-woven cloth still made in Morocco or Algeria is there, but many other arts, crafts, and traditional technologies have been destroyed in the central lands of Islam; much has been lost. But

in certain parts of the Muslim world, traditional methods of production continue and these should be strengthened rather than lost. The governments should try to help in this task of preservation. There are projects like this in Amman, in Morocco, in Iran, and other places. They should try to expand the production of traditionally produced objects not as luxury items, so that you can buy a vase and put it in your living room not as a so-called piece of art, but as part of daily living. Your grandmother and my grandmother took a cloth to go to the public bathhouse once a week, as almost all men and women did in those days—those pieces of cloth were all woven by hand, and many of them are in textile museums today.

It is remarkable how the quality of life has gone down, and not up, with modern technology. The clothing, the bowls from which people ate food, the quality of the food itself, its fragrance and everything else has gone down as far as quality is concerned. So, we should try and preserve these islands, those sectors of human life in which the traditional technologies still survive. Such technologies are combined with art, with a meaning in the making of things, with the satisfaction of the person who makes them, the satisfaction of the person who consumes them, because there is something directly human and at the same time spiritual in the production of handiworks, even if it be a simple comb made by hand.

Titus Burckhardt has a wonderful story in his book on Islamic art that a simple comb maker narrated in Fez, Morocco. He told of how this art was first taught by God to Seth, the son of Adam, and has a spiritual significance. The simple comb, if you go to the bazaar and buy one made by hand, you feel the difference between it and the one produced by the machine. Even an American tourist feels it. In Western society with its high technology something made by hand is considered to be valuable and not inferior. People pay a lot more money if something is made by hand, whereas in much of the Muslim world things have been going in the reverse direction for the last hundred years. Machine-made objects are considered by many to be better than hand-made ones. We can, however, reverse these trends. This can be done. This reversal has to go hand in hand with the intellectual critique of modern technology along the lines of first dealing with its cosmological/ spiritual aspect and second its impact upon the environment, both natural and human.

In response to this point of view, it is often said that it is impossible to go back to those technologies which cannot produce massive quantities because our needs have increased manifold, because the number of peo-

ple on this planet has increased tremendously from the pre-Industrial Revolution era. This is true to some extent in certain fields, but not all. For example, let us take the big cities of India where women still wear saris made by hand. Today there are about 500 million of them. Two hundred years ago there were probably 100 million of them; a 1000 years ago 50 million of them. It is true that the consumers have increased from perhaps 50 million in the Middle Ages to 500 million now, since there are now a billion Indians, out of which approximately 500 million are women. But the number who can produce the cloth have also increased. If one has a somewhat simpler life there will be also more people who can produce things which are made by hand, as their consumption is also increased in proportion. This is one of the fallacious arguments (supposedly on firm economic basis) that is given to create a consumer society.

A consumer society consumes a lot more than it needs. It feeds upon the creation of false needs, which is driving the world to its annihilation and always, the argument is given, that "oh, yes, more people need more things." That is not necessarily true, because when you have more people, you also have more people who can produce simpler things and do not always need machines. In fact the sudden explosion of the world population is itself a product of modern technology, for medical technology is a part of that technology; there is no doubt about it. Modern medicine is a double-edged sword. It saves many lives but it is also indirectly destroying the world through making possible over-population and the greater impact of human beings on the natural environment. They all go together. Right now, if there were a billion of us on the surface of the earth rather than six billion and a half, this catastrophe—that several species have already disappeared from the surface of the earth just during the forty-five minutes that I have been speaking—would not have occurred. It is a catastrophic situation.

So, it is true that we have now a much larger world population, but we also have a much larger population to produce simple things, as I gave the example of hand-woven saris in India. This could work for many other objects. For example, Iran now has a population of over 70 million people. Just a generation ago we had 35 million people, doubled in a period of 30 years. That means that the usage of Persian carpets has more or less also doubled. That could be the pretext, and it was something that many in the government said both before and after the Iranian Revolution, that we have to bring in machine-made carpets because the population and its needs have increased. But also, the people who make

the carpets have increased. In fact, in the villages in Iran today, you can see that there are lot more people making carpets than there were thirty years ago. Appropriate government policies can help a great deal in such situations. I am not saying that it should be done in every case, but in many cases, efforts should be made to preserve the qualitative relationship to production and to consider happiness in life not as having more and more, but in valuing what one has while providing for basic necessities.

This is a very challenging matter because many people will criticize me and say, "Oh! You are against wealth. You are against this, you are against that." No, I am not. There have always been poor people and rich people. But the human collectivity—six billion people—cannot together have the so-called standard of living (which is a dangerous statement but it is made all the time) of the highly industrial nations of the world. The earth cannot support that. And despite all of this modern technology, far from destroying poverty, the modern world has made poverty much worse in cutting man away from nature. Look at the difference between the rich and the poor—there are few places on earth where the difference is as great as in the United States, where the head of a company makes nine million dollars and the janitor makes 10 thousand dollars a year. This is very common here. It is in many ways worse than the difference between the maharājas of India and their subjects during the rule of the Rāj. This is one of those very fallacious arguments that are given by economists of communism and socialism on the one hand as well as capitalism on the other. All claim that they will make people richer and destroy poverty. Now this is possible to some extent but not completely. You see what has happened in practice. Those countries which have the modern technologies, the North, look how different their life is from those who do not. And the idea of chasing after this technology in the so-called underdeveloped world is of course based on the fact that you are always receiving the breadcrumbs of someone else who has eaten at the table, and this so-called chase is not going to improve matters.

We need to think of poverty and wealth in other terms. Let us take a village that lives close to nature, has natural water, has good clean air coming from the mountains, deserts, or forests. It does not have to have all of the wealth of the city of New York in order for people to be happy. That is not the case. We need to rethink our whole attitude towards happiness, towards poverty. Of course, no government can refuse food or clothing or water to its citizens, I am not saying that. Modern technology

could of course help these things, but the fact is that most modern technology is associated with greed; it is associated with modern economics, which is based on greed, and you have seen the consequences of it. We do not have to go into that matter here but we should not blindly accept such arguments that modern technology is the only means to a happy life. The Muslim world can, perhaps, do a better job if it can control greed, if it can control the negative elements, and have a better distribution of wealth, as the Qurʾān teaches us. That it can do if it remains faithful to Islam. But that does not mean that it has to forego the intimate relationship between human beings and the means of production, while trying to have economic justice. That is the whole issue.

Coming back to the main point, "what should be the attitude of Muslims toward modern technology", let us first analyze this matter. This is a very complicated question. The Muslim world encountered the modern West in a situation of a power struggle, that is, the West invaded the Muslim world and Muslims tried to understand how it was that they were being dominated. They thought it was modern Western technology, science, and managerial organization which had allowed the West to colonize them. And power brings with it a sense of respect, unfortunately. There is a beautiful Arabic saying, "*al-insānu ʿabīd al-iḥsān*", "man is the servant of virtue". But unfortunately, there is also the axiom: "*al-insānu ʿabīd al-qudrah*", that is, "man is the servant of power". This is human nature. And the Muslim world, seeing the power of the West, just as did the Chinese and the Japanese worlds, began to have a sense of servitude, obedience, and awe, combined with an inferiority complex, from the nineteenth century onwards: attitudes which are still very much with us.

Although during the past fifty years many voices have spoken very strongly against this inferiority complex (and *inshāʾaʾLlāh* it will gradually diminish) it is still present to a large extent. This inferiority complex does not only involve technology; it is a subset of something larger, that is, the attitude towards the whole of Western culture's organizational strength, its political and economic power and so forth, although not, strictly speaking, religious thought. Even among the most Westernized Muslims would few would say, "Christianity is superior to Islam because that is the religion of the West." But in other domains the inferiority complex remains.

There is, however, one very important mistake that has complicated this discussion. Muslim society has tried to reassert itself during the last half century, or a bit earlier, but certainly since the Second World War,

and has tried to redefine its own identity. Many people have said, "We are no longer mesmerized by the West, its philosophies, its this or that, but what the West has that is positive is its technology. We are against modern Western culture, but technology is neutral, and we want to adopt it." The supreme case of this way of looking at things can be found in what happened in Saudi Arabia between the 1960s and early 90s. The Saudis became very docile in the acceptance of Western technology, as if it were totally neutral. This attitude, although it is a subset of a larger problem, is in fact a new problem that is even more dangerous because it is based on an illusion of the worst kind, and that is that modern technology is culturally and ethically neutral. It is not. It is culturally bound. And it cannot be separated from a worldview which affects man's understanding of himself, of the world around him, not to speak of God and the spiritual world.

But there is some hope. Let me turn to the subject of Islamic architecture and design which are so deeply related to traditional technologies. In the early 1970s I organized the first conference ever held on traditional Islamic architecture in modern times in the city of Iṣfahān. I brought Hasan Fathy, the famous Egyptian architect, from Cairo to Iran. We helped publish his book *Building for the Poor* and Fathy's style has now changed the whole area around Lake Fayyum in Egypt. It really began to take off from the Iṣfahān conference. And it became a turning point of sorts. From about the early 1970s, a number of Muslim architects and city planners began to realize the significance of what in Persia we call "*bāft*", that is, the texture of the Islamic City, meaning not only individual buildings, but the urban design itself. My own former students Nader Ardalan and Laleh Bakhtiar wrote a book *The Sense of Unity* which analyzed the urban design of Iṣfahān and other places on the basis of the idea of "divine unity", the integration of various functions of a city and the cosmological and theological significance of urban design.

Since that time, some thirty years have passed. One of the things I did was plant, along with others, the idea in the mind of the Aga Khan to give an award for architecture which now has become very famous, though the Aga Khan award, I believe, does not only deal with buildings that are Islamic architecture, but it gradually grew out of the ideals of Islamic architecture and then came to also include other buildings. Its concerns have remained in any case mostly Islamic. This program has helped to gradually draw attention to the importance of Islamic architecture and of the urban design of Islamic cities, which are a very important

part of Islamic civilization and culture and include traditional technologies.

Now, what can be done? The first thing that can be done is to preserve what has not been destroyed. All those areas of cities such as Tehran, Lahore, and Cairo—where people infatuated with Western models have demolished beautiful traditional quarters to make big boulevards which are extremely hot during the summer and have destroyed the whole environmental context of the city and all of these things—cannot be resuscitated anymore; nothing can be done to undo this destruction, at least in the short term. But there are quarters of some of these cities which are still partly traditional, like the area around the Wazīr Khān Mosque in Lahore or the Grand Bazaar of Tehran or of course the old Mamlūk and Fāṭimid Cairo. The first thing to do is to prevent these areas from being further destroyed by having big streets run though them, or building tall structures which would destroy the texture of the area. And some of this has been done, thank God. This is one area where things are better now than before. Can you imagine that in the 1970s the mayor of Fez wanted to cut a big boulevard across the middle of the city? Fez is the largest urban area in the world which has no cars in it. And Titus Burckhardt saved the city by going to UNESCO and getting a commission to save Fez and finally speaking with the King of Morocco so that they stopped the plan. Nobody today would think of doing such a thing in Morocco. Things have improved a great deal in this respect. So the first thing to do is to preserve those areas which we still have in many of our countries, especially the smaller cities—for example, Aleppo, Kāshān, and Yazd—those magnificent cities in Syria, the central and southern parts of Iran, and also in Morocco, the whole of Yemen, perhaps Hyderabad in Sindh, some of the Indian cities, and so forth. This is the first thing to do.

The second step, and this has also been taken to some extent, is to try to be inspired by this traditional Islamic urban design in the designing of new towns and villages, rather than simply using Western designs. I was very happy to see that a few of these traditional designs have been implemented in even Saudi Arabia which destroyed so much of its old architecture so rapidly, as well as in Iran, Egypt, Morocco, and elsewhere; of course they are still a minority voice (the architects that are doing this) but this trend continues. Now, I accept that it is not possible in the big capitals of the Muslim world; you cannot undo what has been done to Istanbul or to Cairo. But for the smaller cities, I think, it can be done: many great cities of the Muslim World still have areas which have tradi-

tional Islamic architecture or urban design: Damascus, Istanbul, Iṣfahān, Mashad, Lahore, even Delhi—much of which is really an Islamic city because it was ruled by Muslims for so long—Cairo, and of course the cities of North Africa, which are exceptional in the preservation of their *medinahs*. All of these can still be preserved.

A new generation of architects has to be trained to carry out this task. Right now there is only one school of traditional architecture in the Muslim World that gives a degree in traditional Islamic architecture. That is in Jordon. Until a few years ago, there was just the Prince of Wales Institute in London. There is still no other university in the Muslim World which grants a degree in Islamic architecture and design. When they have a "school of architecture", it is Western architecture. So, we have to start changing by having more schools of Islamic architecture. The same is true for medicine; we have to teach Islamic medicine and pharmacology in medical and pharmacy schools, to teach their philosophy as we should teach the philosophy of Islamic architecture and design. What is important is to understand the principles of Islamic urban design, not only its external form.

For example, in the planning of the city of Lahore—which was one of the most beautiful cities in the world when I first saw it in 1959, and when I saw it thirty years later, I was flabbergasted by the sprawl, it was one of the big shocks of my life—Islamic architecture took into consideration local natural and social conditions, traditional technologies, as well as metaphysical and cosmological principles. They knew that the climate of Lahore is not the same as the climate of Yazd, nor that of Tangiers, so they took everything into consideration: climatic conditions, the social fabric, social dynamics, etc. But above all, these cities had something common in their design: they were all based on certain metaphysical principles related to the nature of reality, cosmology, and the relationship between the human being and God from an Islamic point of view. These principles are now gradually being studied by younger Muslim architects. This type of study has in fact made a lot of progress in the last few decades. For this, we owe a great deal to the writings of Titus Burckhardt and a few others, and perhaps some of my own humble writings which I wrote to try to explain the cosmology and the philosophy behind Islamic art and architecture along with their related technologies. But we also owe a great deal, of course, to the few architects, such as Hasan Fathy, and then the younger generation of architects—people such as Abdul-Wahid al-Wakil and Umar Faruq in Egypt and Sami al-Anghawi in Saudi

Arabia, who have tried to apply some of these principles. In this domain, I am more hopeful than I was thirty years ago when I organized the conference in Iṣfahān. Let us hope that, *inshā'a'Llāh*, this will continue and that in-depth critique of modern technology will enable Muslims to preserve at least something of their traditional ambiance, which was always permeated with the presence of God and was also in harmony with the natural ambiance. Let us also hope that Muslims will gain a deeper awareness of what modern technology entails and develop a more discerning attitude toward it.