

## A FUSION OF NATURE AND CULTURE IN DESIGN

Akhtar Badshah talks to the Iranian architect Nader Ardalan.

Over the last 30 years, Nader Ardalan has been a practising architect, a scholar and a teacher. Born in Iran, he moved to the United States with his family at the age of seven. After completing his studies at the Harvard Graduate School of Design, he began practising in the USA and, later, in Iran. He is currently a principal for the Boston-based firm, Jung/Brannen Associates Inc. and is involved with a number of projects in the Middle East and the USA.

Nader Ardalan came into the limelight about 18 years ago when he co-wrote *The Sense of Unity* (co-authored with Laleh Bakhtiar) which dealt with the Sufi tradition in Persian Architecture. "I see that the genesis of my theoretical work stems from the research that produced the book *The Sense of Unity* and I have not wavered very far from what I knew then were the principle motives that generated that book – these have served as a road map for me", says Ardalan. He sums up his architectural philosophy and practice as "complimentarity – the fusion of nature and culture in design".

Ardalan was a leading figure in the writing of the Habitat Bill of Rights sponsored by the United Nations Vancouver Conference on Human Habitats. He was also one of the founding members of the Aga Khan Award for Architecture steering committee and has participated in a number of their seminars.

Ardalan's professional work has ranged from large-scale master plans for new townships to the design of a sports complex for the Asian Games; an international airport; several universities, museums and mosques; as well as office blocks, apartment complexes, banks and private residences in the Middle East, North America and Europe.

He sees himself as "more predominantly a designing/building person than an educating/theoretician person; although I have always carried both domains, my principal interest has been in the theory of architecture."

**A B:** How has your research and writing contributed to the development of your

design ideas and your work philosophy? Who would you say has had lasting and key influences on your work?

**N A:** I believe that good design is rooted in ecological adaptation to place and cultural relevance to people, their rights and rituals, and their belief systems. The study of ecology, I believe, deals very much with the enormously important emergence of a consciousness that is called the 'gaia' principle. Ecology is a universal trans-cultural domain of scientific investigation and that has always been a key to my success in any work in any country. I nurtured much of my ecological awareness through close collaboration with Ian McHarg who wrote the book *Design with Nature*. My experience with ecology was a heated one for over four to five years. This was because the two of us were commissioned by the Department of the Environment to design an environmental park in Tehran and also because I was selecting sites for new cities to be built in various regions of Iran.

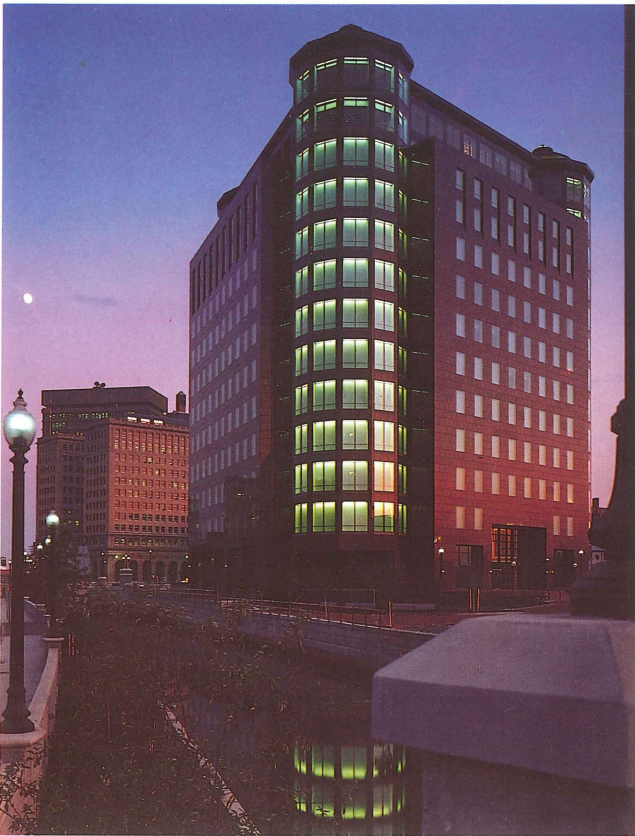
To me the cultural aspects of design are very ethereal and immeasurable, but they are also very much an element that one had to seek in a broad spectrum of fields. The influential figures here included Louis Kahn, who in my formative years in college was building some of his most significant works and whom I later met and worked with. It was Kahn who wrote letters to the University of Chicago Press recommending that *The Sense of Unity* should be published. His thoughts on the 'measurable' and the 'immeasurable' while being particularly related to his work in the United States, India and Bangladesh, had an important impact on my design thinking. It was the 'immeasurable' I explored specifically for the Persian culture which I glimpsed through the study of traditional music, crafts, literature, poetry, garden design and finally architecture.

**A B:** Tell us a bit about yourself and how would you place yourself in the profession, your contribution and range of interest that you have brought into this field as a practising architect, teacher and author.

**N A:** One begins something when one confronts certain fundamental problems that need to be solved and then one goes about solving them. Over many years one looks back at who else has been struggling with these issues. Periodically, you pause, as we are doing now, to evaluate how successful the experience has been and only then can one place oneself. I don't believe that anyone – including myself – began consciously to place myself in any specific historical niche. I spent 18 years of my life being educated in the USA and I began my practice with Skidmore Owings and Merrill in San Francisco. In 1964 I decided to return to Iran and accepted a position as the Head of the Oil Company's Architecture Department in the oil fields of Iran. I went with my family to Masjid-i-Sulaiman where the first oil wells were discovered in the ruins of the ancient Zoroastrian fire temples. There, for two years, I designed many buildings. It was in this extremely hot-arid or hot-arid semi-humid environments, where the temperature is 140°F in the shade, that I started thinking about adaptive design. I soon discovered the inadequacy of my American education for it had not prepared me to undertake culturally relevant design.

Roman Ghirshman, the great French archaeologist, was digging in this area, working principally on the Achaemenid and Sassanian buildings and sites. I eventually helped Ghirshman draw up the plans of some of these finds. It was at the stone threshold of Bard-i-Nishandeh, Seventh Century BC – one of the precursors to Persepolis, that I first noticed the care with which an archaeologist took a half inch wide sable paint brush to brush away the centuries of dust and find gold coins that dated the site. It was here that the real value that history places on my chosen profession became apparent and I realized that architecture had very deep meanings, particularly in an ancient land such as Persia.

I never really attempted to study Persian architecture in one historic period. I was interested in the whole panorama. So my study went as far back as the Belt



Caves in Northern Iran to Marlik (Ninth to Seventh Century BC), then on to the wonderful remains that one could walk through in Isfahan and Kashan of the Islamic period, and then to the Ghajar period, particularly the buildings in which my grandmother lived and in which I had grown up in as a child – the courtyard houses in Tehran. It was this panorama that I had to integrate in addition to whatever I had experienced in the West. The aims of my writing were two-fold: to understand the deep roots of building in Persia, and to make a synthesis of what one should build in the Twentieth century.

**A B:** What was the concept behind *Mandala*, the organization that you started, and what did it achieve?

**N A:** While carrying out this research, it became evident that there was in Persia what was called a feeling of 'west-toxification'. Most of the elite who had been educated in the West had ideas and images of progress that equated progress with western prototypes of buildings. After a few years of living and building in Iran it became clear to me that most of the Western pattern of ecology conflicted with the ecology of Persia: its cultural symbols were being negated or obliterated in the new building design. I felt something had to be done.

One of the first things that I felt I could do in this awakening to cultural identity and indigenous place-making was to set out a series of prototypical forms (this is

*Citizens Bank, Providence, Rhode Island. Left: Exterior façade showing the crystalline extrusions in each of the triangular bays. In the evening each are like glowing lanterns that are eyes and beacons to each of the three rivers. The building was awarded the 1990 illuminating engineers' Design of Excellence for its external lighting. Right: Interior of entrance lobby showing the richness of the colour pallet that Carrara stone provided which was beautifully matched with a mosaic of stone work.*

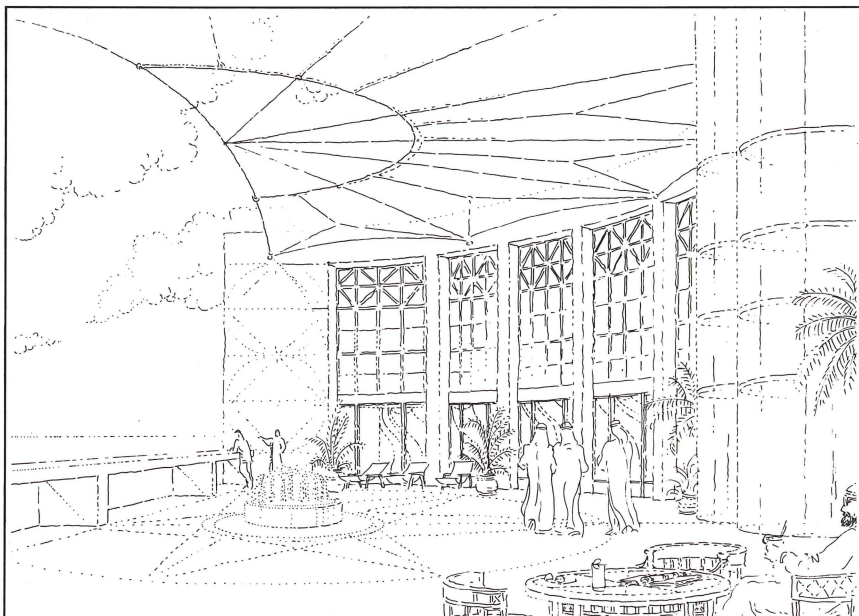
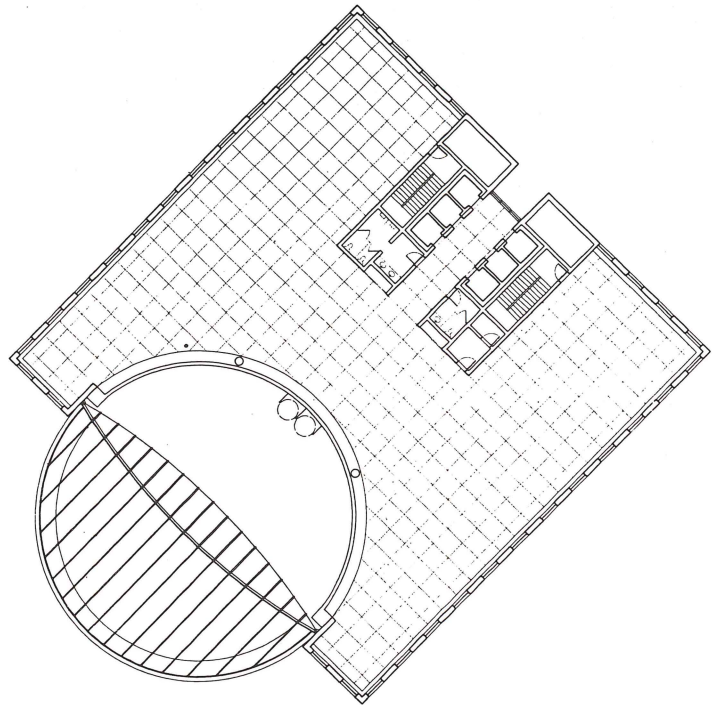
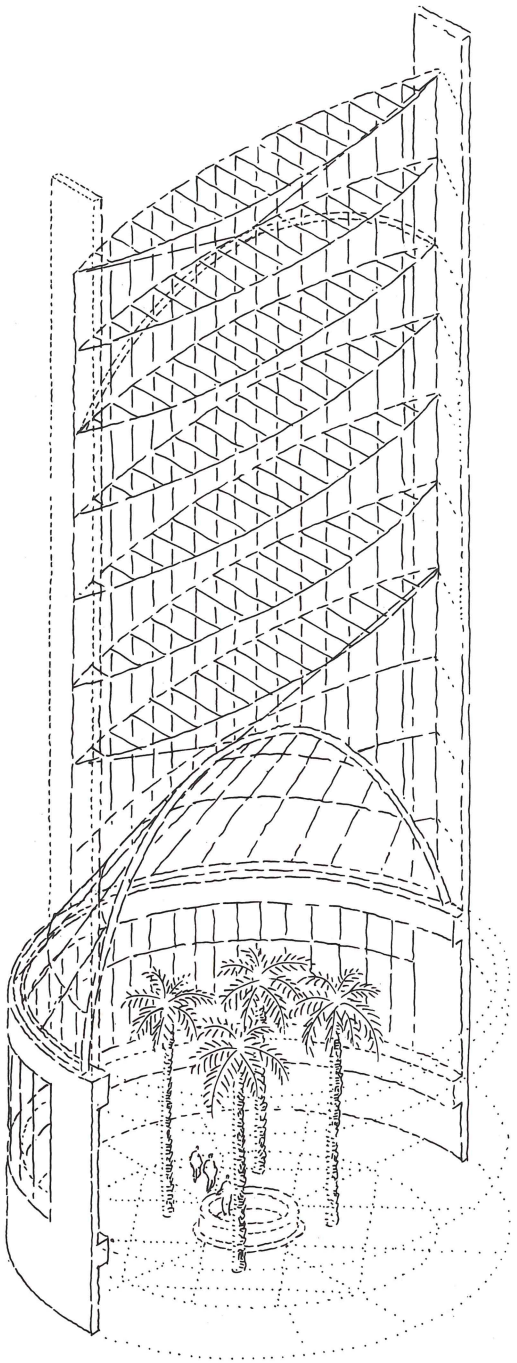
what *Sense of Unity* did) such as the idea of the court and the idea of the garden or the paradise garden or the series of other vocabularies that related to traditional design. I felt that there were already languages and vocabularies that could be used and so I started to build some of the first buildings as part of *Mandala*; the Iran Centre for Management Studies was one of them. Having started on this positive note, and having gathered enough information on traditional cities to draw out prototype forms, while teaching at Tehran University, I thought of launching a number of international conferences. In 1970 the first International Congress of Architects in Iran was formed in Isfahan with the help of a few friends in the architectural profession and assistance from the Ministry of Housing and Urban Development of Iran. We invited Louis Kahn, Paul Rudolph, Buckminster Fuller and a host of wonderful minds to

participate. The theme was to expose the potential for creative interaction between tradition and technology. How could you deal with themes that seemed apparently irrelevant and *passé* with contemporary needs and opportunities? We did the same in 1974 in Persepolis. The proceedings of the conferences were printed and distributed to key decision-makers in Iran and abroad.

*Mandala* was formed in 1972 to carry out an architecture that was based on the themes and research that I was alluding to. The name *Mandala* was chosen because the idea of the word was the re-integration of the parts with the whole. That's what we thought we were doing in this new office; we were taking a society whose history of thought and architecture had been fragmented and had to be put back into a new synthesis.

In spreading this idea of the harmonious synthesis of tradition and technology, both through publications and built work, we were making a contribution, especially for that time. We should remember that in 1970 Hassan Fathy had not been widely published and was unknown to us in Iran. We later became close friends through the Aga Khan Award.

**A B:** What influences did you bring to bear upon your practice here in the United States and could you talk about a specific project in which these ideas that you have thought about for so long are manifested.



## 2. Headquarters for the National Oil Company of Abu Dhabi.

Above: Plan showing the 'U' shape. The front of the 'U' is an open atrium with a solid form on the other three sides. The core is offset to one side with the east, south and the west having small punched openings. In this region the sun's angle goes up to 90°. Consequently, even with a little bit of an inset the window gets its own shade.

Top: Model of the building at night.

Above left: Sketch showing the design of the atrium as a tension compression system of struts which creates an atrium that runs all the way up the building, at the base is a garden which continues in from the outside. Adaptively, the atrium acts as a 'filter' through which one looks out to the sea.

Left: Sketch showing the penthouse reception area with a semicircular courtyard shaded by a tent form that looks out over the sea.

**N A:** My most recently completed large-to-medium-scale project in the United States is the Citizens Bank in Providence, Rhode Island. This was a design competition that we won in 1986 and was part of a major redevelopment in the area of Providence. One of the roots of architecture that I felt had a universal dimension was geometry – pure platonic Pythagorean geometry. The site of this project was at the confluence of three rivers, and it was almost an equilateral triangle. At the same time, its location was in an interesting and prominent urban place, it was like a keystone in an arch. Therefore the idea of geometry in a building as a key element came about. This produced for us a building that had at the vertex of each of the triangles a bay and each of these bays in time became crystalline, faceted extrusions.

The rest of the building was relatively simple so that one had a play between the crystalline openness of the lantern and the solidness of the shaft. At the base of the southern lantern, we designed a rotunda with a view towards Narragansett Bay. We were allowed to design every piece of major furniture in this building. This enabled us to introduce a level of craftsmanship that had been an element which I had used in many of my buildings in Iran and in other places. We explored geometry and the patterning of the various finishes, along with the idea of plaster work in dry wall construction. Ultimately, I think that the test of it was that the client was extremely pleased with this imagery. In their opinion the interior design of the building was Tudor in character and gave a feeling of comfort.

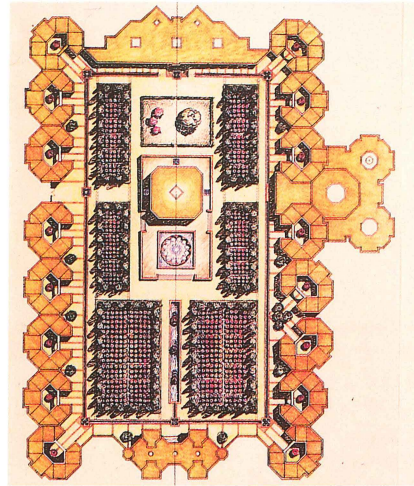
**A B:** Do you think that you might again be involved in projects in Iran?

**N A:** Well actually I have been asked to get involved again and do a lot of work in Iran. It is something that I am thinking about. A project of mine, the Centre for Creative Arts for Children and Young Adults in Tehran has just been completed. The work has been credited to *Mandala*. There has been as much construction of my work in Iran over the last ten years as outside Iran; all of this was done from old drawings and design work that we had already completed.

**A B:** What is the most recent project that you have been working on?

**N A:** We submitted a design for the headquarters for the National Oil Company of Abu Dhabi and two of its subsidiaries for a competition that is now being judged. It is located on the corniche of Abu Dhabi, and the design of the main building again comes from this quest for ecological adaptation. It is 'U'-shaped in plan, a form that pivots to the north to catch the view to the sea and to the port. The front atrium you view through a

glass wall which we developed with Ove Arup and partners. We maintained and elaborated the idea and the theme of a garden and brought the garden right on into the building. The form used at the top of the building is very indigenous to



3. Centre for Management Studies, Tehran: a model showing the complex designed as a series of courtyard houses surrounding a lush paradise garden, which was watered by a natural gravity flow system.

the Gulf architecture, and I first used it in 1974. One can see a certain faithfulness to the pattern. In both images there is the idea of the shelter that is coming from a tent; both forms are also very cubic. Over a period of time one also develops a certain consistency in one's vocabulary.

**A B:** What has it meant to you being a Principal and Vice-President of a large American practice? What directions have you brought to this firm and how is it shaping up?

**N A:** Whilst a collaborative effort is intrinsic to such an organization, each project that comes along is assigned a principal and only one person can commit the ideas to paper. I've never shirked from the responsibility of integrating diverse ideas and putting the result on paper. I have also been heavily involved here with the work done overseas and I helped start Jung/Brannen International in 1983. I have recently initiated with one of my associates, Bruce Forbes, a very interesting project to create a computer-based geographic information system and facilities management system, for the entire Air-Base of King Abul Aziz in Daharan. This is being done in conjunction with one of the major firms in Saudi Arabia. For a number of years, I also directed our interior design department and we did a lot of rich crafted interior work with wood. Looking back, I've always practised in larger firms; the challenge that comes to larger offices excites me. Their projects

have more urban impact and you are challenged more.

**A B:** What direction do you foresee your practice to take in the future?

**N A:** Architectural practice is always changing. I think that the computer dimension of architectural practice and particularly the geographic information systems and facilities management systems in architecture will completely transform what we are doing. There is a whole world of artificial intelligence coming into architecture through the computer, and a lot of the things that we cherish can be transferred as value systems to an automated decision-making system, leaving time for us to look even more deeply into what is architecture. I also believe that we are moving towards an architecture of 'lightness', with thinner skins achieving the same insulation values and achieving some of the same sensations about architecture that we have cherished from the more masonry-related worlds that we come from.

I think that technology change is something that should be valued, we shouldn't flee from it. Complementing technology is the cultural aspect, the interest in which I think comes and goes in waves. In the late 1960s and early 1970s we were much more conscious of the cultural elements of design. In the 1980s, however, I think much of this practice of cultural elements of design was usurped by the post-modern or the architecture of historical recall. I think this created a 'pastiche' of the real consciousness that had been raised. I hope that the next generation, having seen that the architectural recall of the 1980s has still left us thirsty for something deeper, will continue that pursuit of architectural principles. In this quest we can be helped greatly by creative minds such as Joseph Campbell who has documented the value of the mythic image, or ideas on symbolic meanings in Islamic architecture. I think that these areas need to be studied much more vigorously.

Today we are faced with a grave ecological and demographic crisis. However, there is a new consciousness of a 'conservator society' which is directly related to a paradigm shift that we are beginning to experience, both in values and ways of living. It is a shift which is geared towards a more sustainable life – an essential element if humanity is to survive on this planet. The architect's role in helping to identify viable human settlements within this new frame of reference is the ultimate challenge for our profession.

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