Contemporary Arab Architecture

The architects in Saudi Arabia

This is the concluding article in this series on Arah Architecture.

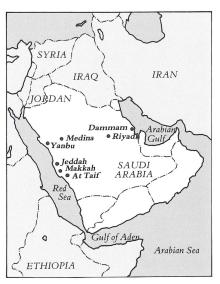


hile there is mutual agreement regarding what is Islamic architecture of the past, contemporary Is-

lamic architecture is debatable and, ironically, the disagreements are most envident in Saudi Arabia, the centre of Islam. Even when considering the limited contributions by Arab architects and the responsibilities of Arab clients, the debate is open as to what extent the continuation of traditional Islamic architecture in Saudi Arabia expresses an Islamic or Arab identity.

The Arab vocabulary, which at some time in the past was adapted in far distant regions as an element of Islamic signification, today is threatened by a conglomeration of American, Japanese, European and other foreign architectural interventions. Can commissions to foreign architects express a contemporary Islamic spirit? Do young architects from Saudi Arabia manage to compete with the large international firms, and where do they get their education? Which criteria do clients apply for the commissioning of large-scale complexes such as universities or airports? To some extent these types of questions also arise in discussing contemporary architecture in countries such as Egypt, Morocco, Iraq and Libya, but never has it been of such importance as in Saudi Arabia.

Saudi Arabia is the largest country on the Arabian Peninsula, yet its borders, even today, are not precisely defined. It is estimated that the total area is 2,149,690 square kilometres (829,995 square miles) and the population to be around 8 million people, of which 2 million are foreigners part of the gigantic work force. The capital is Riyadh, with 1 million inhabitants; other cities are Jeddah, the commercial centre of the country, with 1 million inhabitants; Makkah, the religious centre, with 425,000 inhabitants; Medina Taif and Dammam / Al Khobar each with around 220,000 inhabitants. Nearly all the large cities have doubled the number of inhabitants in the ten years between 1970 and 1980, and recent new cities, such as Jubail on the Arabian Gulf and Yanbu on the Red Sea, were designed to eventually accommodate a



population of 250,000 and 150,000 respectively. The form of government remains an absolute monarchy, with King Fahd bin Abdulaziz as ruler since 1982.

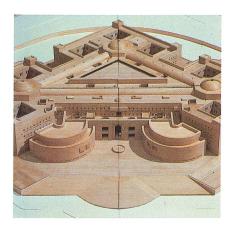
The gigantic rebuilding of old cities and new communities, which took place in an extremely short time span, has astonished the world and changed the balance of the international architectural situation. One quarter of all architectural activities in the world, excepting the Communist countries, takes place on the Arabian Peninsula. The basic regenerative programmes of the country were initiated with the five-year plans in 1970. The present, third, five-year plan (1980-85) has an outlay capacity of 300 billion US Dollars.

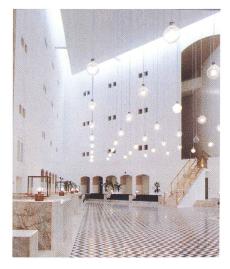
It is a matter of national pride and self-identity that a large part of the architectural activity is expressed in government centres and palaces for the ruling family; each represents an image of the country's power and authority, and each marks an important step in the self-defining development. It is, however, surprising that nearly all of these commissions were given to foreign architects who claim to build on the continuation of the Arab tradition.

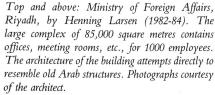
Of central importance is the Royal Palace in Riyadh by the German architects Rolf Gutbrod and Frei Otto. Begun in 1978, the complex is at the same time of monumental proportions and light character. Built on the highest area of the site, the King's Offices are an elevated heptagon ring supported by tree-shaped steel columns with outside walls clad in white marble. The Council of Ministers Building extends from this central part as does the Majlis-Al-Shura Building with a 100-metre diameter dome dominating its structure. There are also two mosques in



Article by **Udo Kultermann.**





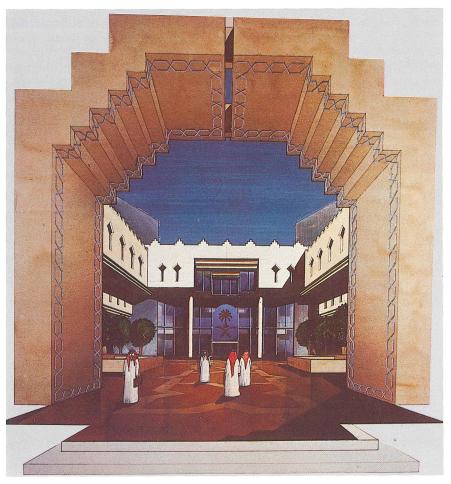


Above, right: Ministry of Labour and Social Affairs, by Zuhair Hamid Fayez (1984). Photograph courtesy of the architect.

the complex as well as a heliport, barracks for the guards, staff villas and service facilities.

The two palaces by the Japanese architect Kenzo Tange for the King and the Crown Prince in Jeddah, were designed in 1977 and completed in 1982, located north of the city. Tange developed a compact articulation which operates with geometric elements such as the square in the circle.

The clients' responsibility for articulating an Arab identity by commissioning foreign architects is evident in new government buildings, such as the Ministry of Information by the English architects Collins, Melvin and Ward; the Ministry of Public Works and Housing by the German architects Kraemer,



Sieverts and Partner (1982-1985); the Ministry of Foreign Affairs International Headquarters in Jeddah by the Canadian architect Arthur Erickson and the Ministry of Foreign Affairs in Riyadh by the Danish architect Henning Larsen. Only one ministry, the Ministry of Labour and Social Affairs was designed by an Arab architect, the firm of Zuhair Hamid Fayez. The complex, which called for four different ministries under one minister, has a square shape surrounding an open courtyard and a typical Islamic gateway symbolising the main entrance.

The results of the Ministry of Foreign Affairs Building in Riyadh is perhaps the clearest indication of how the client was able to achieve an optimal solution. The first phase in the development of this prominent structure was an invited limited competition of eleven leading international firms, among them Trevor Dannatt, Frei Otto and Rolf Gutbrod, Ricardo Bofill, Kenzo Tange and Arata Isozaki. It is significant that not one Arab firm was invited in this initial phase. After long consideration the client selected the project by the Danish architect Henning Larsen, who began the work in 1982

and completed it in 1984. A theoretical statement by the architect entitled Lessons from the Orient, begins with the question: "Is it possible to interpret and transform the physical manifestations of Oriental architectural elements into a contemporary idiom along the lines of the requirements and development of the Islamic cultural patterns?" The building, indeed, answers the question: it is conceived in a pattern found by the architect in old regional buildings. The basic triangular complex resembles old fortresses of the Arab world, but unconsciously it also resembles the Pentagon in Washington, D.C. even though the pentagon was changed to a triangular form.

Two other government centres that relate to an existing environment are Sir Leslie Martin's Government Centre in Taif (1978) and Franco Albini's Kasr-El-Hokm in Riyadh. Both are convincing examples of how a new structure can be harmoniously added into the old fabric of the city in terms of a contextual assimilation.

As with the buildings for Royal and government representation, educational structures in Saudi Arabia are also seen as

symbols for the identity of the country and are thus given strong emphasis in the general architectural policy. As in palaces and government centres before, the main share of commissions were given to foreign architects with special know-how in large-scale planning and management. One of the earliest manifestations was the University of Petroleum and Minerals in Dhahran designed by the Texan firm Caudill, Rowlett and Scott (CRS) and was built in the years 1964 to 1971, with an addition completed in 1982. The campus has been described as a kind of academic acropolis. The architectural language and materials are all foreign and reflect the ambition of the client to compete with standards on an international level.

The most gigantic and prestigious university, now almost complete, is in Riyadh. Several teams of architects collaborated in the design, among them Hellmuth, Obata and Kassabaum (HOK) from the United States and Collins, Melvin and Ward from England. One of the largest commissions ever given to a team of architects, the university will accommodate 21,500 students.

The site planning of the campus inter connects compactly-grouped buildings by a system of circulation spines, which are centered in a glass-covered forum surrounded by the major administration buildings.

Among several other large-scale educational institutions in Saudi Arabia in the process of being constructed, is the King Abdulaziz University in Makkah by the American firm Skidmore, Owings and Merrill (SOM) who programmatically based their design on Arab tradition. Work began in 1979, completion is expected in 1995, and the goal is to accommodate 10,000 male and 5,000 female students.

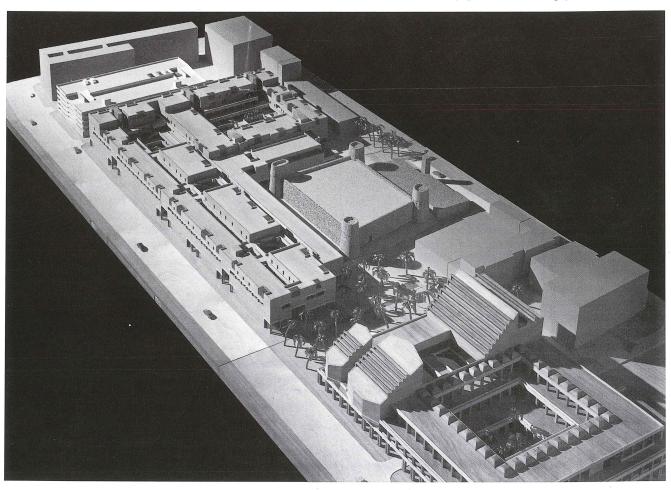
The most outstanding recent design is for the Dammam Girls' College by the Finnish firm Devecon Engineers and Architects, with Jauhiainen and Nuuttila as the designing architects. In accordance with traditional Saudi Islamic living patterns, male and female circulation is strictly separated. The shape of the complex is a further step into a new direction: imaginative design elements such as domes and curved forms, and materials such as coloured tiles are combined to

express the content of a building which at the same time is in harmony with the most recent forms of international architecture and the specific Arab elements of tradition.

Buildings for cultural purposes are also to a large extent, commissioned to foreign architects. One of the completed buildings, Kenzo Tange's King Faisal Foundation Headquarters in Riyadh, located in the Ulaya district of the city, has become an urban landmark which dominates the environment.

Of the many contemporary mosques in Saudi Arabia several have been incorporated into larger building programmes, such as universities, airports, conference centres, cultural centres, new neighbourhoods, etc. It is significant that in this particular area there have been contributions by Arab architects, as

Kasr-El-Hokm (Municipal offices) in the centre of Riyadh by Franco Albini, Franca Helg, Antonio Piva and Marco Albini was built in the immediate vicinity of the old al-Masmak fort.. An intimate mix of public and private spaces was achieved based on pedestrian circulation in harmony with traditional criteria of Arab planning and architecture. Photograph: Aldo Ballo Fotografo, Milano.



manifested in Zuhair Hamid Fayez' mosque in the Sports City of Dammam and Basil Al-Bayati's Mosque of the Book for Riyadh.

Although Arab architects have, to some extent, also contributed to buildings dealing with health care, social welfare and sports and recreation, the foreign specialists received the largest commissions in this area too. The English firm The Architects Co-Partnership designed and constructed eight hospitals and one health training institute commissioned by the Ministry of Health, as well as one private ophthalmic hospital. The American firm The Architects Collaborative (TAC) built hospitals in the new towns of Khamis Mushayt and Tabuk with 108 and 150 beds respectively, with specific considerations for sun protection and the separation of wings for male and female patients, a requirement by the client.

Among the club and sports buildings in Saudi Arabia, the most outstanding is the Equestrian Club in Riyadh on Sitteen Street by the firm Rader Mileto in 1977. Built as a showpiece, it has become a symbol of the client's ambition for an opulent and luxurious life-style. The plan

of the complex, in the shape of a horseshoe, contains separated club facilities for men and women, but there was no real attempt to relate the complex to traditional Arab architecture.

The same can be said for the other Sports and Recreation Centres which follow the modern developments of this building-type in the Western tradition. In this particular field Arab architects have also been commissioned, for example the Beeah Group Consultants in Riyadh who designed the Youngsters' Training Sports Centre in Abha and the Public Playgrounds in Riyadh.

Large-scale sports centres and stadiums have been either planned or built in the major cities of the country, and they have been commissioned exclusively to foreign architects with special experience in this building type. The Sports Hall for the King Abdulaziz University in Jeddah by the German architect Frei Otto, completed in 1981. In collaboration with Ove Arup and the Buero Happold, Frei Otto adapted his system of cable networks and textile covers, which is more in harmony with old Arab works than any of his earlier tent constructions

in Germany and Canada.

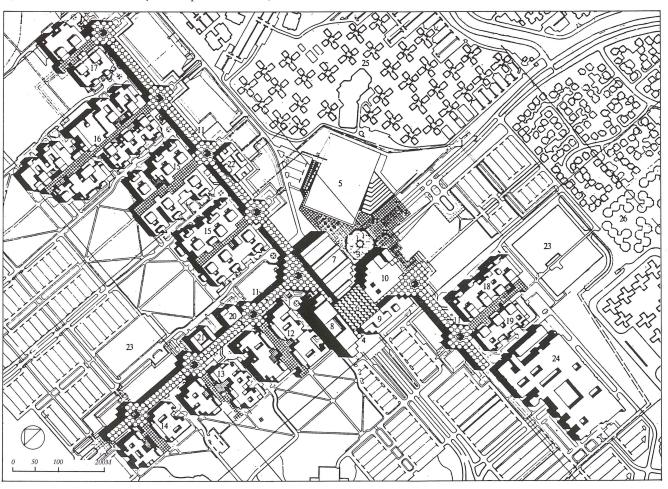
The wide area of commercial architecture in Saudi Arabia is manifested in large office and bank buildings, market halls, hotels and conference centres in a great variety of architectural forms. It is in this field that Arab firms such as Omrania, Zuhair Hamid Fayez and Beeah Group

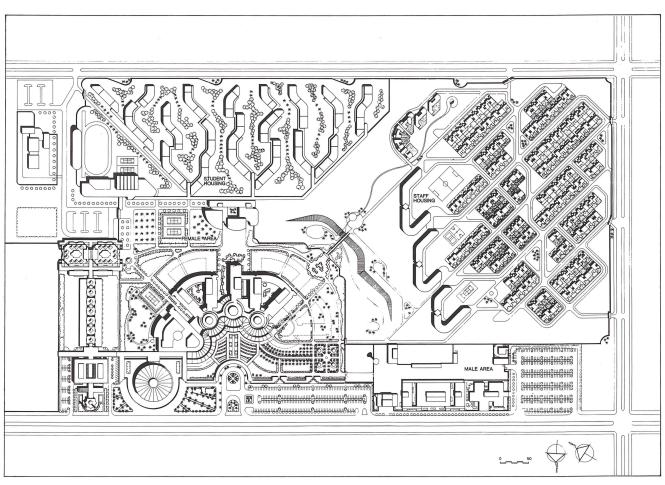
King Saud University, Riyadh, by HOK with Collins, Melvin and Ward completed in 1985. The complex is considered to be the largest building project in the world.

Site plan

- 1. Loop Road 2. Formal entrance
- 3. Formal entrance
- 4. Administration entrance
- 5. Mosque platform
- 6. Forum
- Library
- 8. University Center
- Administration Building
- Auditoria Building 22. Dining hall
- 11. Spines
- 12. College of Arts
- 13. College of Education

- 14. College of Administrative Sciences
- 15. College of Science
- 16. College of Engineering
- 17. College of *Agriculture*
- 18. College of Pharmacy
- 19. College of Dentistry
- 20. Lecture halls
- 21. Media Center
- 23. Botanical gardens
- 24. College of Medicine
- 25. Student housing
- 26. Staff housing







Left and below: Damman Girls College by Devecon. The first phase completed in 1984 contains the main building, the art and science faculty wings for 7000 students, a main auditorium, a bus station and a mosque. Drawing and photograph courtesy of the architect.

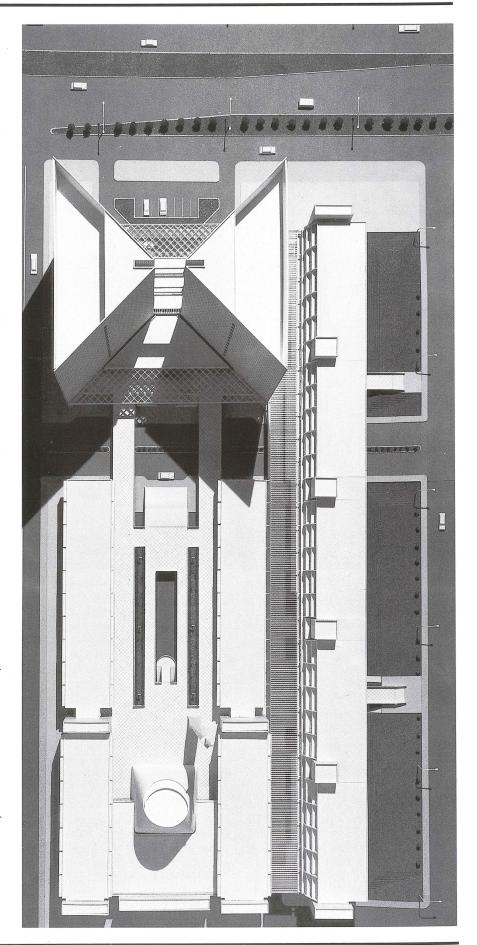
Right: King Faisal Foundation, Riyadh, by Kenzo Tange (1976-82). A "self-contained city within a city", it stands as an isolated monument dominating the urban landscape. Photograph courtesy of the architect.

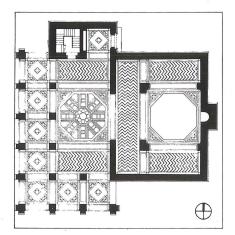
Consultants compete with large international firms, even though the most prestigious commissions are still given to architects from America and Europe. The most spectacular of these commercial realisations are two high-rise buildings: Minoru Yamasaki's Saudi Arabian Monetary Agency in Riyadh and the National Commercial Bank in Jeddah by Skidmore, Owings and Merrill (featured in this issue, see page 36). While they dominate the urban panorama these architectural solutions make no attempt to refer to the local environment or to the Arab tradition. Contributions by Arab architects in this area in most cases follow the architectural language of Western architecture, as with the project for the offices and apartment building for Sheikh Shaker Taba in Riyadh of 1980 by the Lebanese architect Pierre Neema; the Beeah Group Consultants U.N. Regional Offices in Riyadh in 1982-83; and the firm Omrania, the Furniture Showroom for Mutlaq Brothers in Riyadh.

Zuhair Hamid Fayez built the Jeddah Oil Refinery Administration building and the 15-storey Sheikh Saleh Kamal Office, both in Jeddah, as well as several other structures. His Sauman Headquarters in Jeddah (1981) uses decorative window patterns which attempt to relate to the Arab past.

Shopping centres in most cities of Saudi Arabia are in the process of replacing the old sougs, and new forms have yet to be developed that bring tradition and contemporary requirements into harmony. Julio Lafuente's project for a department store in Jeddah in the shape of a group of monumental shopping cartons remains figurative architecture of an experimental character which would more closely fit into the urban environment of Texas or California. In contrast, Paolo Ghera's Central Market in Riyadh of 1967 has surprisingly been adapted by the shop-keepers, who have added their own shadow-creating curtains to the standardised, repetitive concrete open vaults.

Another aspect of commercial archi-









tecture in Saudi Arabia is manifested in hotels and conference centres. Among the outstanding hotel buildings are the Riyadh Hilton by Warner, Burns, Toan and Lunde of 1976-1978, the Hyatt Hotel in Jeddah by SOM and the Hilton Hotel in Jeddah, the Sharaco Hotel in Riyadh and the Marriott Hotel in Jeddah, all by the German firm of Hentrich and Petschnigg. The only major hotel designed by an Arab is the Meridien Hotel in Jeddah of 1975 by the Lebanese architect Samir Khairallah and Rader Mileto Associates from Rome. In the bedroom tower the building follows the typology of the international hotels and only in the lower floors are Arabic elements added in a somewhat forceful sculptural manner. The rows of pointed arches do not make these forms part of a contemporary Arab architecture. While most of these buildings vary in some ways, whether by foreign or Arab architects, they still follow international trends, however, there

are two complexes that stand out by incorporating elements of the Arab tradition while at the same time meeting the requirements of international tourism: Trevor Dannatt's Hotel and Conference Centre in Riyadh (1973) and Frei Otto's and Rolf Gutbrod's Hotel and Conference Centre in Makkah (1974).

It is possible to use contemporary technology in such a way that it solves problems posed by the industrial age and at the same time relates harmoniously to environment and tradition. This is clearly demonstrated in buildings that are completely based on engineering and technology, such as water towers, airports, desalination plants and television towers. Sometimes the architectural design transcends the engineering technology in order to fulfill symbolic requirements. This is evident in the three major airports in the country in Dhahran, Jeddah and Riyadh where the different phases in the adaptation of tradition in airport design

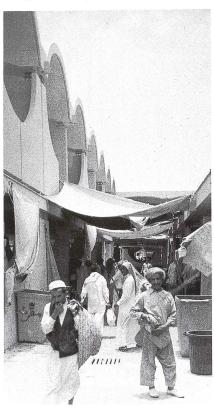
Far left: Mosque on an island off the corniche in Jeddah by Abdel Wahid El-Wakil (1985) for the municipality. A small gem in a traditional Egyptian vocabulary.

Left: Sheikh Shaher Tabaa, Riyadh, project by Pierre Neema (1980).

Left, below: Sammam Headquarters, Jeddah, by Zuhair Hamid Fayez (1981).

Below: Central Market, Riyadh, by Paola Ghera (1977).

Photographs courtesy of the architects.



over the last two decades are clearly demonstrated. The first step in this development can be seen in Minoru Yamasaki's Dhahran International Airport of 1963. The building was given an 'Arabian look' by bending the architectural elements to resemble a Moorish arch. The wall panel ribs, which were necessary for the stability of the construction, were designed to create a visual illusion of laciness, again, resembling old Arabian architectural motifs, as were the tile patterns applied in the interior. It could be argued that this architectural language was only ornamentally applied, giving the illusion of Arab identity, but it accurately reflected the situation at the time in Saudi Arabia. In more recent additions to the same airport as well as in a project for a new Dhahran airport the principles of design will be completely altered.

Two more recent designs for Saudi Arabian airports applied new levels of advanced engineering and at the same

time kept in harmony with the Arab tradition. The King Abdulaziz International Airport in Jeddah by Skidmore, Owings & Merrill, completed in 1982, is partly distinguished by the design of the gigantic Haj Terminal, an airport within an airport, built exclusively for the millions of pilgrims from all over the world travelling to Makkah. The Haj Terminal encloses the largest covered space in the world, and has the capacity to serve 5,000 pilgrims per peak hour. The most characteristic feature of this beautiful terminal is the large special loftiness of the roof which at its lowest point is 20 metres above the ground.

Of no less spectacular scale and importance is the new King Khaled International Airport in Riyadh by the architects Hellmuth, Obata and Kassabaum (HOK) completed in 1984. Of central importance in the design philosophy were the basic Islamic forms of the past: the arch, the dome and, most importantly, the triangular geometry which structures all parts of the complex. By means of architectural ingenuity and by extending the basic geometric design patterns of old Islamic architecture into a contemporary space concept, this airport complex can rival the great Islamic structures from the past, even if it serves a quite different function.

While it is a crucial necessity, water technology is another demonstration of national pride based on engineering solutions imported from other parts of the world. The many desalination plants, road and bridge constructions and TV towers belong to this category, but it is the water towers built by the Swedish engineer Sune Lindstroem in Riyadh and Jeddah that give the urban environment in which they are located a special character. One exceptional contribution by

architect Basil Al Bayati is the project for a monumental telecommunication tower in Al-Nahklah for the Ministry of Communications in Riyadh.

ousing in the spirit of

Islam has had only marginal results in Saudi Arabia, and the dichotomy between traditional buildings and those buildings in a foreign style is still unresolved, even in cases where Arab architects also made contributions. For example, the housing prototypes for Citybank in Riyadh by Paolo Riani of 1976 are based on the import of prefabricated units.

A series of villas for Jeddah by Richard England from Malta of around 1980 attempt to relate to the character and way of life of the prospective inhabitants. In this instance, courtyards and open arcades are used as elements that harmonise with traditional architecture. The interrelations between the individual houses were also taken into consideration, thereby creating the feeling of a neighbourhood with defined spaces between the buildings.

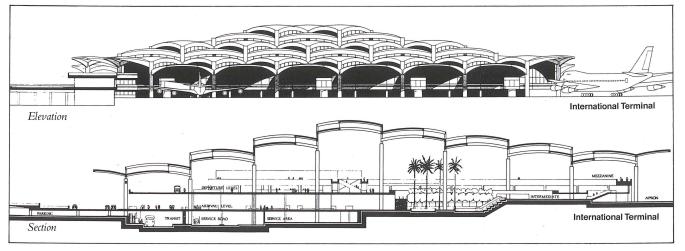
In his Al Sulaiman's Palace in Jeddah, El-Wakil offered a solution which is in line with the renewal of the Islamic tradition. The architect stated in MIMAR 1, (1981): "I wished to make explicit a philosophy of design for the traditional Arab house." In spite of the fact that many features and materials are taken from the old Arab architecture, the formal language still follows Western models and a strong dichotomy between the two sources remains.

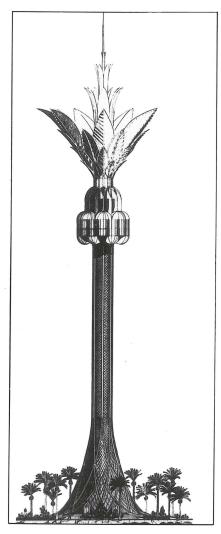
The many buildings by Zuhair Hamid Fayez basically attempt a reconciliation between the elements of Arab tradition and the contemporary requirements of a luxurious modern life-style. The Fahd Bin Khaled Palace in Riyadh is a monumental example of this. Within a cluster of buildings, the area contains different functions which are separated into three zones: the formal area for the guests, an area for recreation, and the private family area. Another example, the palace for Prince Fahd bin Sultan in Riyadh is differently organised: it covers a large area with a conglomerate of individual units which serve different functions interconnected by airconditioned walkways leading through a series of landscaped courtyards. The palace is conceived as a village and strongly resembles Spanish architecture, which was determined by the special taste of the client.

The problems of single-family residences are multiplied when looking at large-scale mass housing where a variety of realisations have demonstrated a wide degree of failures often due to the unfamiliarity of Western types of masshousing to Saudi Arabia. The most obvious failure was the monumental "Dammam Towers" by the American firm The Eggers Group built in 1977-1979 in Dammam. In this catastrophic scheme, thirty-two 17-storey apartment towers were grouped in eight clusters, each with four towers, and they created an environment which related neither to the Arab tradition nor human scale.

While the problem of mass housing remains unsolved in most other countries of the world as well, the problems in

King Khaled International Airport, Riyadh, by H.O.K. (1984). The gigantic complex will have the capacity to serve up to 15 million passengers with its four interconnected terminals. In the centre is the Royal terminal and a mosque large enough to accommodate 5,000 worshippers. Drawing courtesy of the architects.





Telecom Tower, Riyadh, project by Basil Al-Bayati; in a palm-tree shape it has several floors of offices, studios and an art gallery, a museum and a leisure centre. Photograph courtesy of the architect.

Saudi Arabia can be seen in a special perspective. For instance, the housing schemes by Caudill, Rowlett and Scott in Abquaiq and Dhahran are predominantly for the American employees of Western firms and it is understandable that these buildings remain within the tradition of American architecture, even though they are built in the Middle East. On the other hand, the residential complex for the employees of the Ministry of Foreign Affairs, also by CRS, clearly follows traditional Arab patterns.

The Raytheon Compound in Jeddah by the firm The Architects Collaborative, completed in 1972, can be understood in terms of foreign design. The project, built in collaboration with Metcalf and Eddy and F.E. Basil, incorporates schools, a clinic, and training facilities into a neighbourhood context.

Pier Luigi Nervi's top management and staff housing complex in Dammam of 1977-78 in a combination of villas and low rise apartments which are in the shape of a neighbourhood. Into this he has integrated a clubhouse and a swimming pool, as well as landscaped areas between the buildings.

The American firm Eugene J. Mackey, in collaboration with Abalkhail and Sverdrup and Parcel, won an international competition for the Ulaya district in Riyadh with their plan for a community housing for 8,000 people in an inwardoriented neighbourhood with low densities in the centre and higher densities, with commercial facilities and offices, in the outer parts of the scheme. The 43hectare site is characteristic of traditional living patterns in old Arab communities in spite of the fact that all the buildings are in line with contemporary construction techniques and urban requirements. In a brochure in 1979 the architect wrote: "The dense periphery provides a strong architectural identification for the project and serves as a buffer to protect the privacy of the residential area", while Mackey concentrated on the neighbourhood the problem of integrating the Ulaya district into the larger context of the city remains unsolved.

The project by the English architects McDonald and Yakeley for the Riyadh Additional Water Supply (WASIA) is a case of programmatic nature as it tries to create a completely new living environment in the desert. Designed in 1976 and completed in its first phase, the architects proposed an experimental village based on a water treatment plant and pumping stations. The first phase was designed to house 400 workers, plans for the second phase will increase the living accommodations to 550 workers. The village is based on the principal of low-rise courtyard houses and planned as a comprehensive living environment with shopping facilities, offices, schools and a cen-

The pilgrims' accommodations in Muna near Makkah have posed a problem since the first commission in 1972 to the English firm Robert Matthew, Johnson-Marshall and Partners. All the early proposals were recognised as insufficient and a competition was announced for additional and different types of accommodations, even of temporary nature. The proposal by Rolf Gutbrod and Frei Otto with the collaboration of Kenzo Tange and the Saudi Arabian consultant

Sami Angawi was built in 1980-81. It was a flexible system that extended the accommodations into the mountains surrounding the holy site combining permanent fixtures with portable covers and floor panels. Designed to temporarily house no less than 1 million pilgrims in a very small area it was the most appropriate solution and proved that contemporary technology in its specific form of lightweight construction can recreate forms which are closely related to the old tent of the Arabian desert.

The most outstanding projects by Arab architects for comprehensive housing schemes in Saudi Arabia are the projects for Whittaker Housing in Riyadh by Fayez and Al Jarudiyah Village in the Eastern province of Saudi Arabia by Ahmed Farid Moustapha in collaboration with Frank J. Costa. The Whittaker Housing project is a residential complex composed of groups of houses with one, two and three bedrooms centered around open courtyards. There are swimming pools and other recreational facilities as well as office buildings and parking. Interconnecting walkways between the individual groups are shaded partly by the semi-circular roofs of the residential units, which also give a sense of formal unity to the neighbourhood.

The plan for the Al Jarudiyah village of 1979-80 is a model for low-rise highdensity living accommodations revitalising elements from the Arab Islamic past. The architect programmatically identified these elements as: "1. The need for family privacy; 2. The need to maintain and enhance a sense of neighbourhood social community; 3. The importance of introduucing passive cooling features in the design of the house; and 4. The importance of providing a visual distinction between public and private space." The village neighbourhood is a re-unification of houses and public spaces with mixed business as a linear core and commercial and educational facilities as the linkage to the existing village on the southern end of the project. The lessons of Hassan Fathy with regard to Arab living patterns and the expression of a rural identity is here articulated in a contemporary plan.

Contemporary city planning in Saudi Arabia is of greatest importance not only in regard to the many new cities but also to the existing urban environment of cities such as Riyadh and Jeddah. Even regional planning was introduced in the design for the Western region of Saudi Arabia by Robert Matthew, Johnson-







Left: Ghazi Nazer Villa, by Zuhair Hamid Fayez (1981).

Centre: Talal Zahid Villa, by Zuhair Hamid Fayez (1981).

Below: Soliman Mosly Villa, Jeddah, by Zuhair Hamid Fayez (1981). Photographs courtesy of the architect.

Marshall and Partners in the years between 1970 and 1973 which included Master Plans for the cities of Jeddah, Medina, Taif, Yanbu and Tabuk. The plan for the Jubail Permanent Community was commissioned to the American firm The Architects Collaborative and is to be completed in two decades. The master plan for the city of Riyadh was by the Greek firm of Constantinos Doxiadis and became the basis for several later plans by other architects. The French planner Georges Candilis was commissioned to develop Master Plans for the cities of Dammam, Al Khobar, Qatif, Al Ahsa and Al Jubayl.

A large part of the urban planning in Saudi Arabia is for newly planned military cities such as the towns of Khamis Mushayt, Tabuk and Quaysumah. Commissioned to the firm The Architects Collaborative, each of these border cities was conceived as an autonomous community including road construction, power distribution, communication services and the necessary community and military facilities to serve approximately 25,000 inhabitants in each. The cities of Khamis Mushayt and Tabuk were completed in 1973.

Another military city, King Khalid Military Town located about 220 miles north of Riyadh was designed by the American firm Brown and Daltas in the shape of an octagon. The Town is a completely self-sufficient community serving a population of 100,000 inhabitants. Its octagonal shape not only resembles the plan of the Pentagon in Washington, D.C., but also the European utopian cities from the Renaissance, which in most cases have not functioned as a living community, and there are great doubts that the Saudi Arabian military cities will develop any differently.

mong those Arab architects who have contributed to the new architecture in Saudi Arabia several are from other Arab states such as Egypt,

Iraq, Palestine and Lebanon. They immigrated to Saudi Arabia, and in a relatively short period not only received commissions but also academic positions,



giving them a leading role in the education of young architects. One of the most important is Ahmed Farid Moustapha who was born in Egypt in 1939. He studied in Alexandria, then at the Massachusetts Institute of Technolgy in Cambridge and at the Catholic University in Washington D.C. Since 1974 he has been Dean of the School of Architecture at King Faisal University in Dammam and has designed several buildings on the campus in Dammam, mostly employing Western technology and a Western architectural language which - to some extent - contrasts with the ambition to create a specific Arab identity. In his later works, especially the design of the village Al Jarudiyah in collaboration with Frank I. Costa, he came closer to a renewal of Arab life styles with the employment of the courtyard house and the high density in a rural environment.

The Egyptian architect, Abdel Wahed El-Wakil was born in 1943 in Cairo, where he also studied. For two years between 1977-79 he was in close contact with Hassan Fathy, before beginning his private practice. Subsequently he received several commissions in Saudi Arabia, among them is Al Sulaiman's Palace in Jeddah and the Datsun Showroom in Jeddah, which became controversial examples of a traditionalist approach in contemporary Saudi Arabian architecture. Recently he has also designed two small mosques on islands off the corniche of Jeddah.

Abdel A. Ismail is another Egyptian architect who works and teaches in Saudi Arabia and is distinguished by the design of a housing scheme in Riyadh: "Um-Al-Hamam" of 1980.

Two architects who occasionally worked on commissions in Saudi Arabia, come from Lebanon: Pierre Neema and Samir H. Khairallah. Neema designed 14 school buildings for Aramco in Saudi Arabia, the P.T.T. Buildings in Medina

Project for the Saudi Arabian National Centre for Science and Technology (SANCST), Riyadh, by Archiplan's design team headed by Abdullah Bokhari.

and Makkah as well as the Offices and Apartments for Sheik Shaher Tabara in Riyadh in 1980. Khairallah, who was born in 1935 and studied in Beirut and Berkeley, California, was primarily engaged in working on the Hotel Alsalam Meridien in Jeddah of 1975 and the Al Jazirah Marble Company Building in Riyadh of 1977. The hotel in Jeddah combines comfort in the tradition of international hotels with imaginative space forms of a decorative Arab nature.

The architect Jafar Tukan was born in 1938 in Jerusalem and studied at the American University in Beirut. Since 1976 he has also been active on the Arabian Peninsula and in 1977 designed a Sports Centre in Saudi Arabia.

Another architect working in Saudi Arabia is Basil Al Bayati, who was born in Iraq and now lives in London. He studied in Baghdad and London and has designed several projects for Saudi Arabia, among them the Jama'a Al-Kitab, a television tower for the city of Riyadh, and a courtyard house in Riyadh. In his various designs Al Bayati attempted to revitalise old Arab design principles, which he defends in his book Process and Pattern (London, 1981): "Successful design for the Islamic world depends upon the understanding of the cultural element of this region, embodying the rules handed down by Divine Law ... Careful examination of traditional elements in Islamic culture gives us the necessary insights to deal with today's cultural elements. After studying these traditional cultural elements we understand how they have improved Islamic culture in the past, and how these elements may be modified to fit today's new and more complicated Islamic culture."

The third and smallest group of architects working in Saudi Arabia today, after the foreign architects and the Arab architects from other Arab countries, are the Saudi Arabian architects who in nearly all cases, went to study and work in Europe or the United States. The intense competition they face makes their professional development extremely difficult. One of these architects is Amine El-Charif who was born in Saudi Arabia. He collaborated with Frei Otto and Rolf Gutbrod on the design for the Hotel and Conference Centre in Makkah, and also works as an independent architect in Berlin, Germany, where he worked on projects for a villa in Jeddah in 1978, a sales department and office building in Jeddah in 1979, and in collaboration with the German architect Juergen Fissler, he participated in the competition for an Islamic Centre in Madrid in 1979.

Another such practice is Archiplan with offices in Jeddah, Oakland and London. The principals of the firm are Turkish and Saudi — the Arab partner, Abdullah Bokhari, received his doctorate from the University of Pennsylvania and has since then been based in Jeddah.

The three offices which appear to be the most promising within today's generation of Saudi architects are The Associated Design Consultants (also called Omrania) in Riyadh, the Beeah Group Consultants in Riyadh and the firm of Zuhair Hamid Fayez in Jeddah.

Omrania, with their senior partners Basem Shihabi and Nabil Fanous, function as a team who see the results of their work not on an individual basis but as a cooperation of several members. In one of the earliest works the group collaborated with the English architects Abbey and Hansen Rowe and Partners and the result was a building which is one of the new concepts of social responsibility in recent architecture in general: a school complex in Riyadh for over 3,000 pupils including deaf, partially deaf, blind, partially sighted and mentally retarded children from kindergarten to secondary level of education. The task which was seen as a pilot project from the beginning was conceived as a 'village' and, if successful could, after modifications, be realised in different regions of the country. In spite of the fact that this inspiring design has not yet been built several other projects of the firm are completed, among them housing and commercial development and the headquarters for the General Organisation for Social Insurance

(GOSI), and a housing complex for them in Riyadh; the headquarters for the Dutch Bank in Dammam; and several palatial residences. A large project begun in 1982 in collaboration with the American firm The Architects Collaborative is a residential neighbourhood in the new town of Yanbu which will contain 450 units with educational, religious, health and recreational facilities. The Omrania's architectural language strongly reflects the foreign education of the senior partners and the collaborating partners.

The firm Beeah Group Consultants is another firm of young Arab architects in Riyadh, with the senior partners Abdul-Rahman O. Hussaini and Ali M. Shuaibi. Among the works of the firm are private residences, apartment complexes, a hotel building, a sports stadium and public playgrounds. Their project for an open market in Onaiza of 1980 gives a realistic reaffirmation of Arab values in a small community. Open spaces and the use of simple local materials are in the centre of harmony between old and new. The Youngsters' Training Sports Centre in Abha is another project of the group which has not yet been completed, where a variety of buildings are grouped together in order to enhance the local tradition. Also their public playgrounds for the northern region of Riyadh characteristically harmonises an urban environment according to both traditional and contemporary needs.

The most ambitious and convincing project of the Beeah Group Consultants is the Oman Complex for the Blind of 1980, financed by the Saudi Fund for Development. As in the project of Omrania in Riyadh also here a building task expressing social responsibility for handicapped young people is articulated in an imaginative architectural form including residential and educational facilities. The architectural solution is a linear arrangement of pavilions that reflects at the same time the international standard and the old tradition of Arab welfare in a new type of building.

Probably the most successful architectural firm from Saudi Arabia is Zuhair Hamid Fayez, with offices in Jeddah and Riyadh. Among the several completed works of his office are the Defense Institute in Jeddah, the Headquarters for the Youth Welfare Organization in Taif, the Sammam Headquarters in Jeddah of 1981, the administration centre in Jubail of 1983-84, and the Mosque in the Sports City of Dammam of 1984-85. In addition

there are many princely residences and palaces completed in recent years. Two of the most outstanding are the Palace for Fahd Bin Sultan in Rivadh and the Fahd Bin Khalid Palace in Rivadh. Both combine, in different articulations, the luxury life-style of the members of the Royal family with considerations of traditional architecture. The office also completed a large number of private villas all built in Jeddah in 1981. The architectural language of most of these residential buildings still indicates the American training of the architect, but the structural organisation of the buildings is inside oriented and closed off from the outside.

The basic question posed at the beginning remains unanswered: to what extent does contemporary architecture in Saudi Arabia, gigantic and unrivalled in scale and dimension, express the identity of the country and its people? To a very large extent the problem begins with the clients who often make decisions of longranging importance, as building programmes of today will decide the directions the country will take in coming generations.

It is also true that the few successful firms of Arab architects have to compete with the elite of international architects from America, Japan and Europe. Clients and architects together articulate what and how to build and, as often is the case, one learns from mistakes, especially in a developing situation. As difficult as it may be to admit, large-scale mistakes have been made in Saudi Arabia; but it is the recognition of these mistakes and how to remedy them that creates a healthy growing development. This is not to say that another country would have been more successful given the dimension, speed and scope of work accomplished.

With the enormous foreign contribution toward a new architecture and the influx of foreign architects into Saudi Arabia, a challenge has been posed to the increasing numbers of Arab architects to create a basis upon which new developments for a Renaissance of Arab culture can grow. In spite of the mistakes the high quality of the achievements is unrivalled in the world. As the country further develops and grows with its enormous potentials so will its architecture. Arab architecture, as in the past, can again be the articulation of unity in diversity and in harmony with its great tradition, thus creating a contemporary Arab identity of a new and exciting quality.



Udo Kultermann is Professor of Architecture at Washington University in St. Louis, Missouri. He is the author of numerous books and articles on modern architecture.