



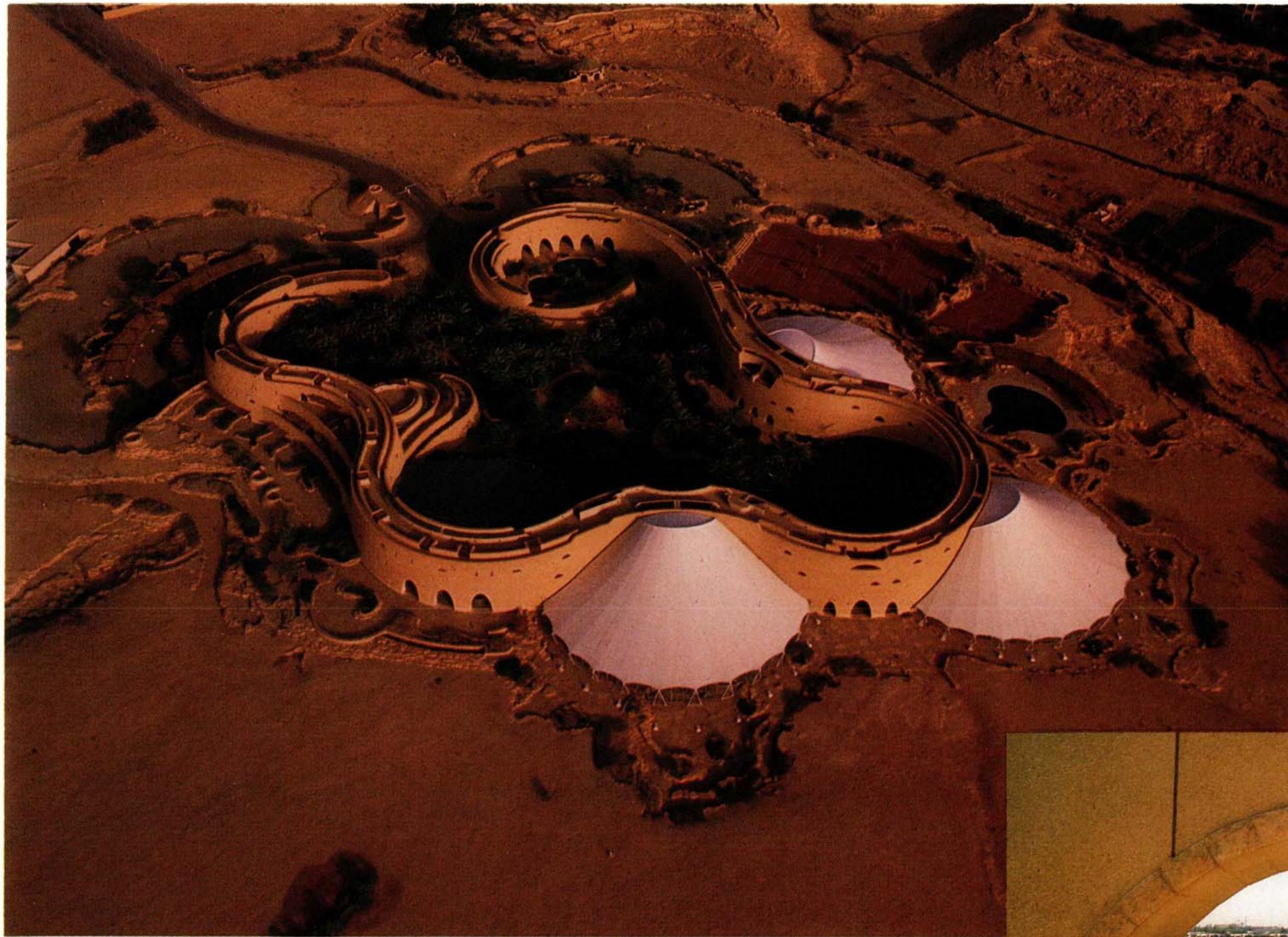
# *Tuwaiq Palace*

KINGDOM OF SAUDI ARABIA



ARRIYADH DEVELOPMENT  
AUTHORITY

*Tuwaiq Palace*



## Design Concept

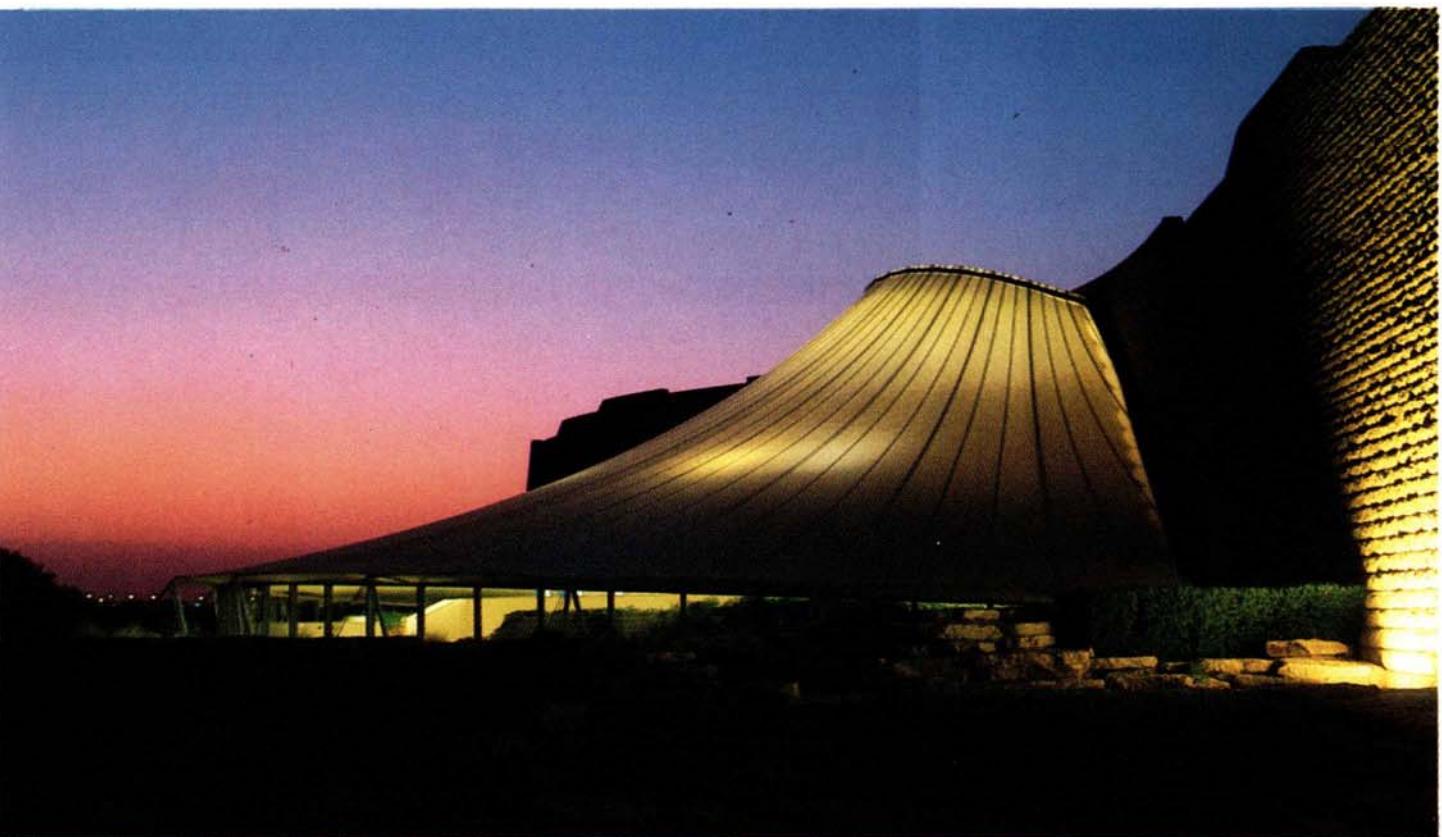
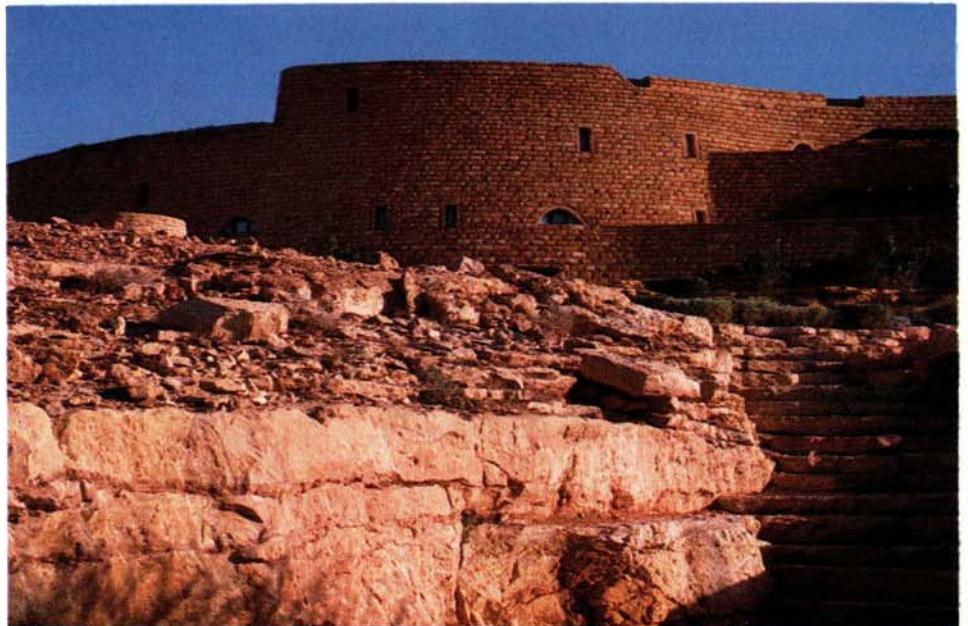
Tuwaiq Palace is located on the northwestern edge of Hayy Assafarat, the diplomatic quarter of Arriyadh. The 77,000 square meter site is located on a plateau overlooking Wadi Hanifa and is flanked by two branches of the wadi. Originally, the site was devoid of vegetation.

The architectural concept derives from the shape of a desert rose and consists of a curvilinear form, with massive tapering outer walls enclosing a hollow inhabited spine. Soft tent-like structures cling to these rugged walls as the desert rose clings to the rock. The meandering walled structure winds around an oasis inner garden, protecting it from the desert

conditions outside the wall.

Thus the building was designed in harmony with the features of the site, and the towering Arriyadh limestone wall seems to grow from the desert surroundings. The serpentine walled structure provides form, transition and a barrier between the outside desert-like environment and the protected inner garden.

Three white fiberglass fabric tents hang from the massive limestone wall, appearing to float in contrast to the solid wall and reflecting the close relationship between the tent and the desert.

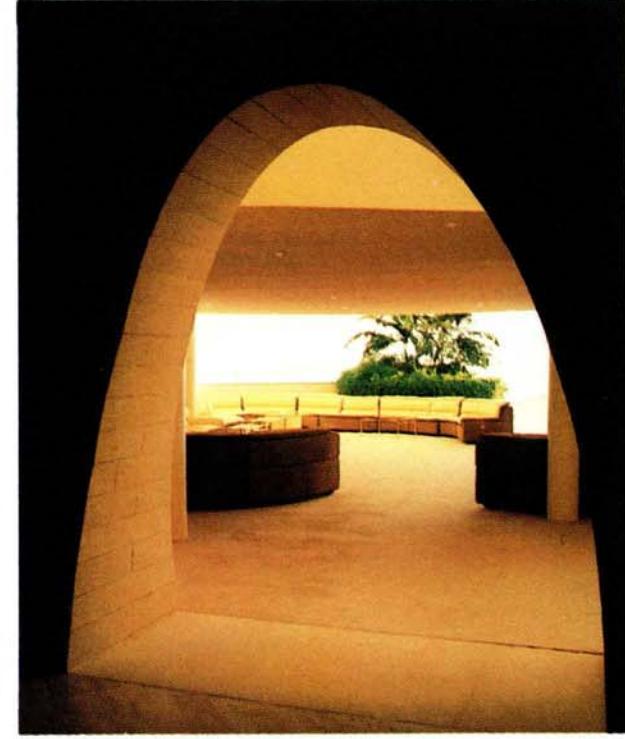
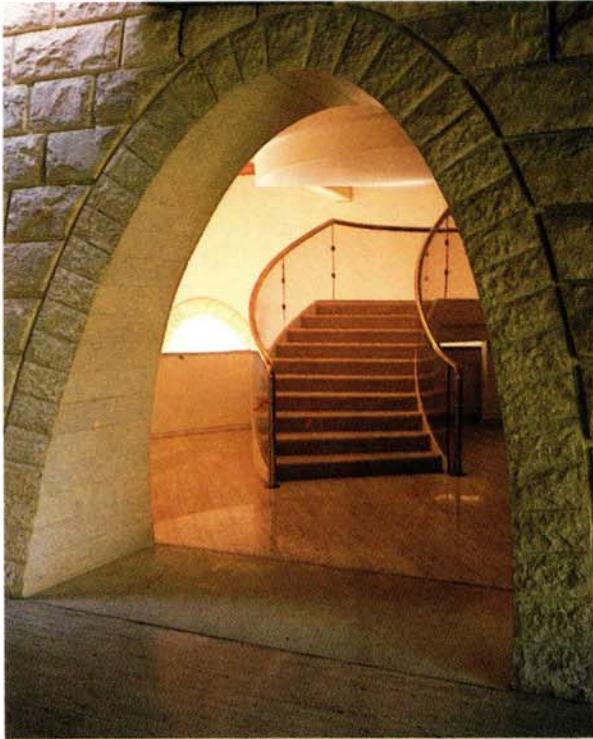
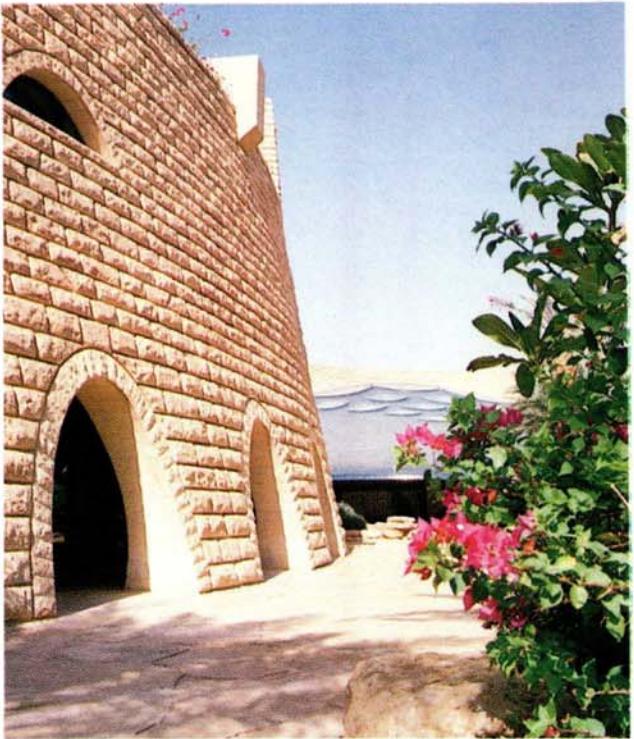




Openings in the wall are small and infrequent, like the openings in the surrounding wadi walls. Two symbols of traditional Arabic architecture - the heavy walled fortress and the light desert tent - are juxtaposed yet subtly blended. From the inside, the building appears to be an infinite protected area, as the transparent windows of the roses provide an invisible boundary between interior and exterior landscaping.

The overall design of Tuwaiq Palace represents a synthesis of local, regional and international

architectural styles, and although it is a thoroughly modern building, it evokes the Saudi heritage without being a pastiche of traditional building styles. Natural materials and finishes such as marble, timber and limestone are used together with teflon-coated fiberglass membranes to complement the fundamental characteristics of the design concept. These materials help to unify interior and exterior spaces. Floor finishes often flow out onto external terraces, while the rocky exterior landscape is brought inside by the use of rockeries and miniature waterfalls in some of the public areas.

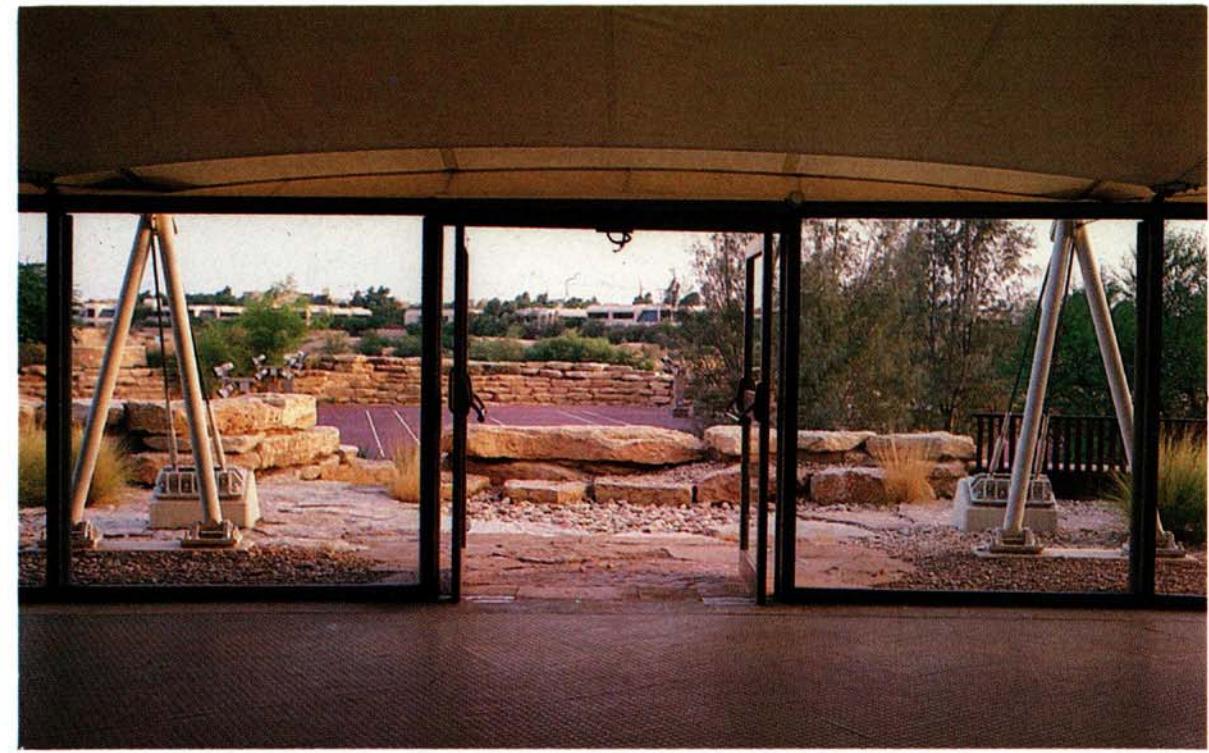
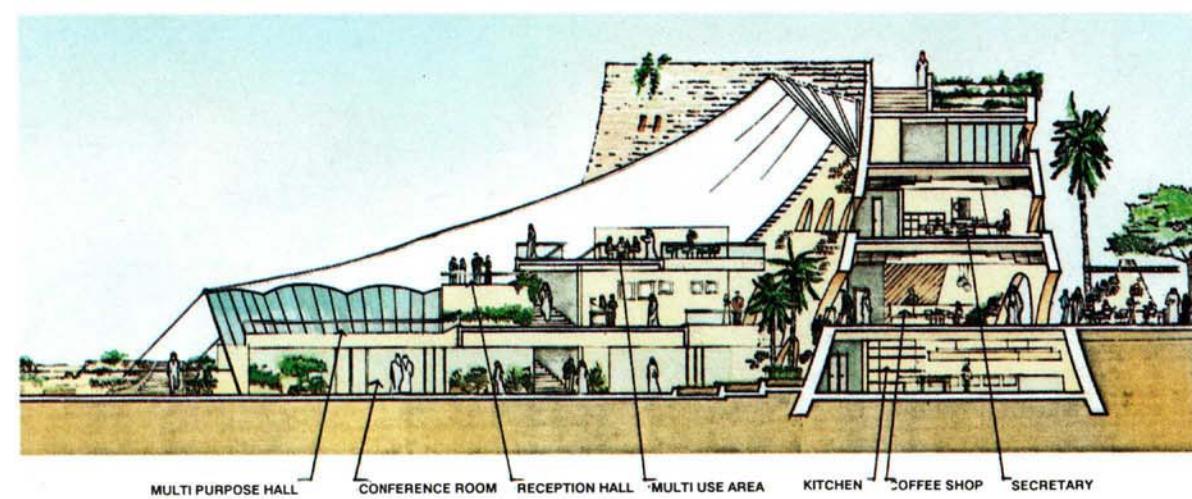
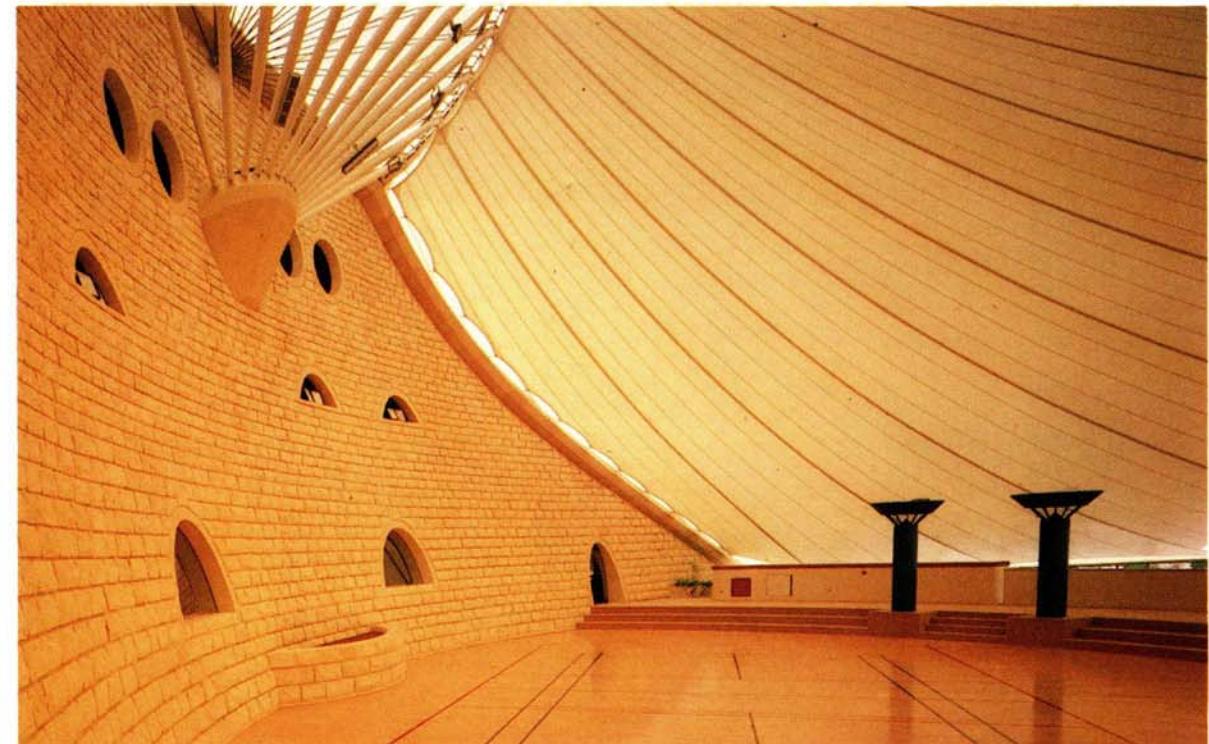




## Functional Design

The building is composed of an 800-meter long wall twelve meters high and seven to thirteen meters thick. This concrete wall is composed of 30-centimeter thick cast insitu concrete. An insulation layer has been laid on the external surface, followed by 24-centimeter thick natural stone blocks set into a five centimeter mortar layer. Sporadic steel anchors join the two separately-working wall layers. Traditional thick mud walls with their excellent properties of insulation provided the pattern for those of the building which reflect the day's heat and store the night's coolness.

The wall winds around an interior garden where lawns, lush foliage and flowering plants thrive in an artificial micro-climate created by fountains and palm groves.





The center-piece of this garden is the "heart tent," a beautiful pavilion, 7 meters high and 17 meters in diameter, with a roof made of pieces of brilliantly colored handpainted glass. A 7.3 meter trussed steel mast provides central support. This structure, shading a shimmering pool at its base, can be glimpsed through the foliage from many parts of the garden.

The entrance foyer is housed in one of the blue-tiled tent structures. This rose is roofed with cable nets which are directly attached to the wall without support crowns and covered with timber boarding, waterproofing, and insulation material, and are clad with blue ceramic tiles.

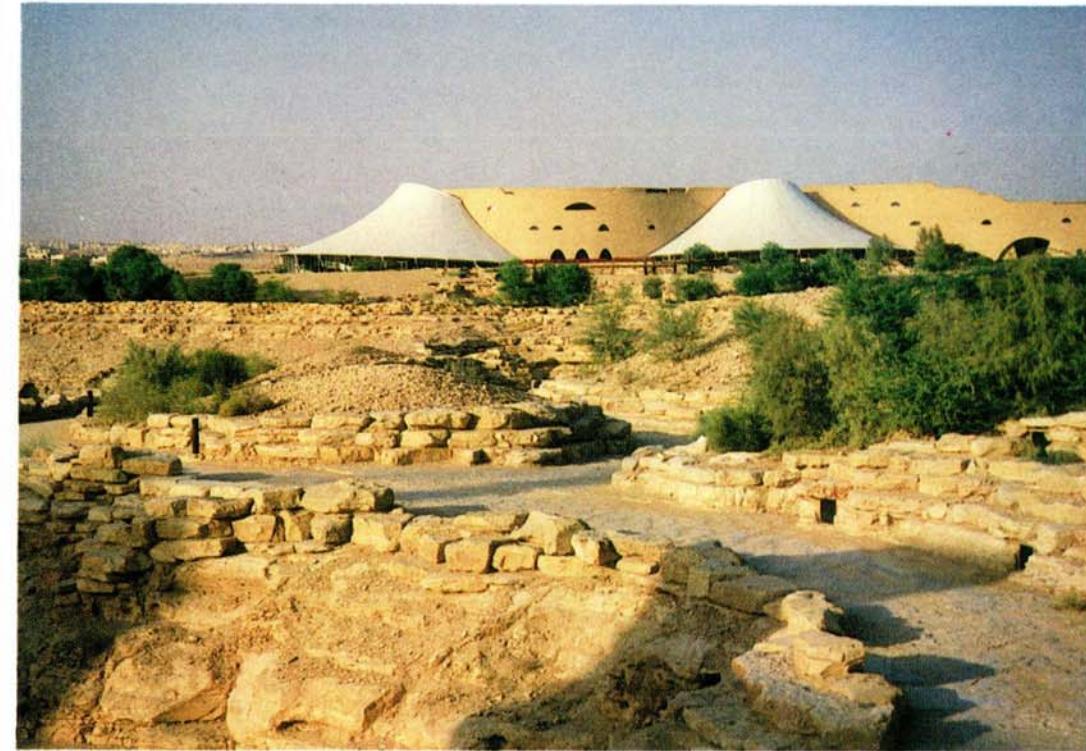
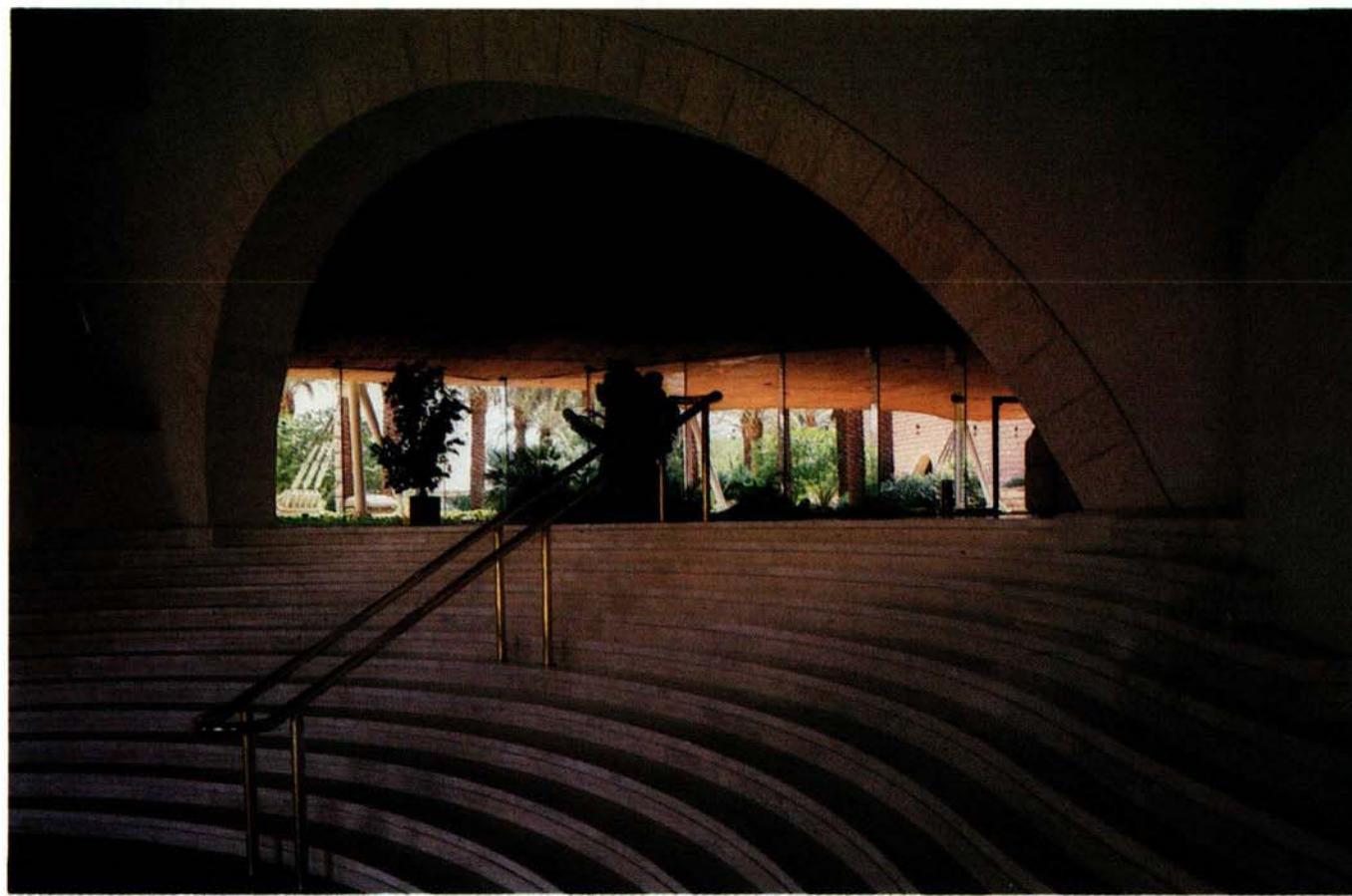
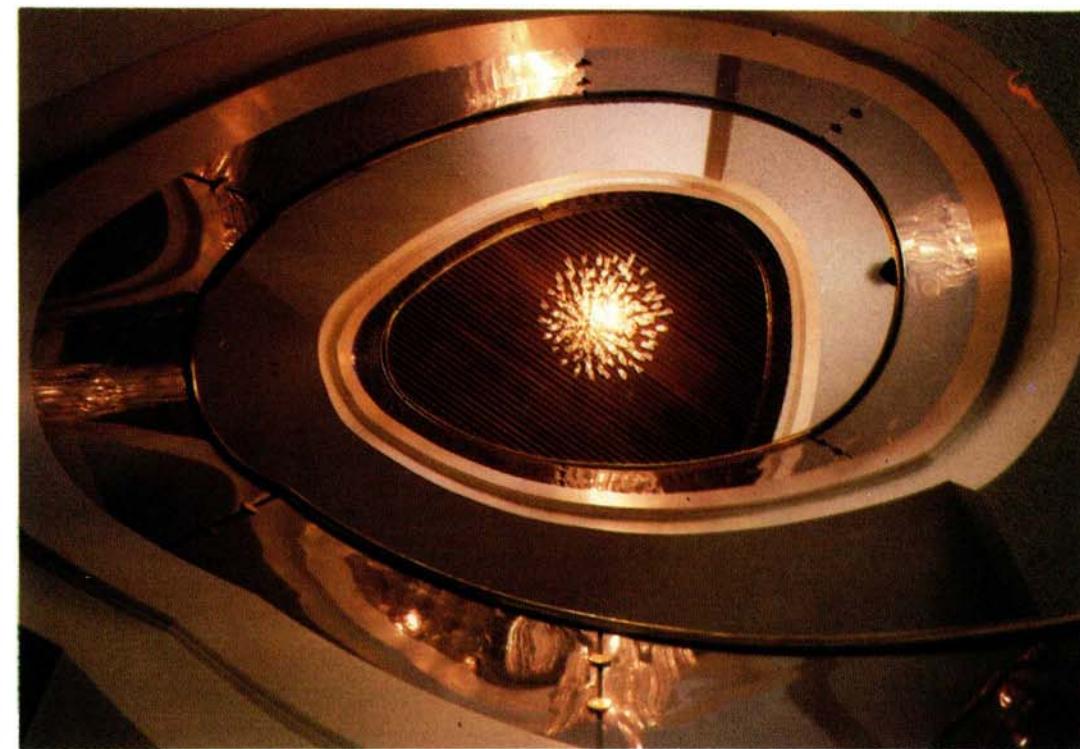
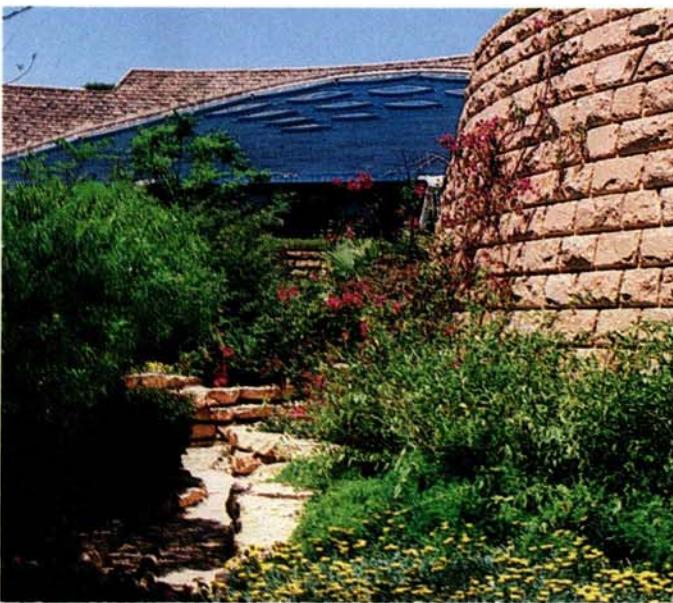
The other blue tent structure houses a large multi-purpose hall. This hall is

equipped with advanced audio-visual systems.

Three white fiberglass fabric tents form the "exterior roses" hanging from the wall. These tents are supported by radial cables attached to the wall by means of fan-shaped steel support crowns, set 16 meters above the floor. The structural fabric is white teflon-coated woven fiberglass. Sealed at the perimeter with cantilevered full-height glazed glass, the structures are supported at ground level by inclined hinged masts and tied to anchor blocks.

These tents cover three multi-purpose halls, each having an area of 1,600 square meters.





One of these halls looks across to the southwestern side of the wadi. This hall is composed of several levels, and at its center is a shimmering pool.

Seating more than 300 people, the second hall views the northern side of the wadi. This hall has direct access to the main kitchen at the basement. Three glass-walled conference rooms accommodating a total of 60 people are located on the lowest level.

The third white-tented hall affords a view to the western side of the wadi. Beneath this hall are bowling alleys, squash courts, a gymnasium, a sauna, a plunge pool and dressing rooms.

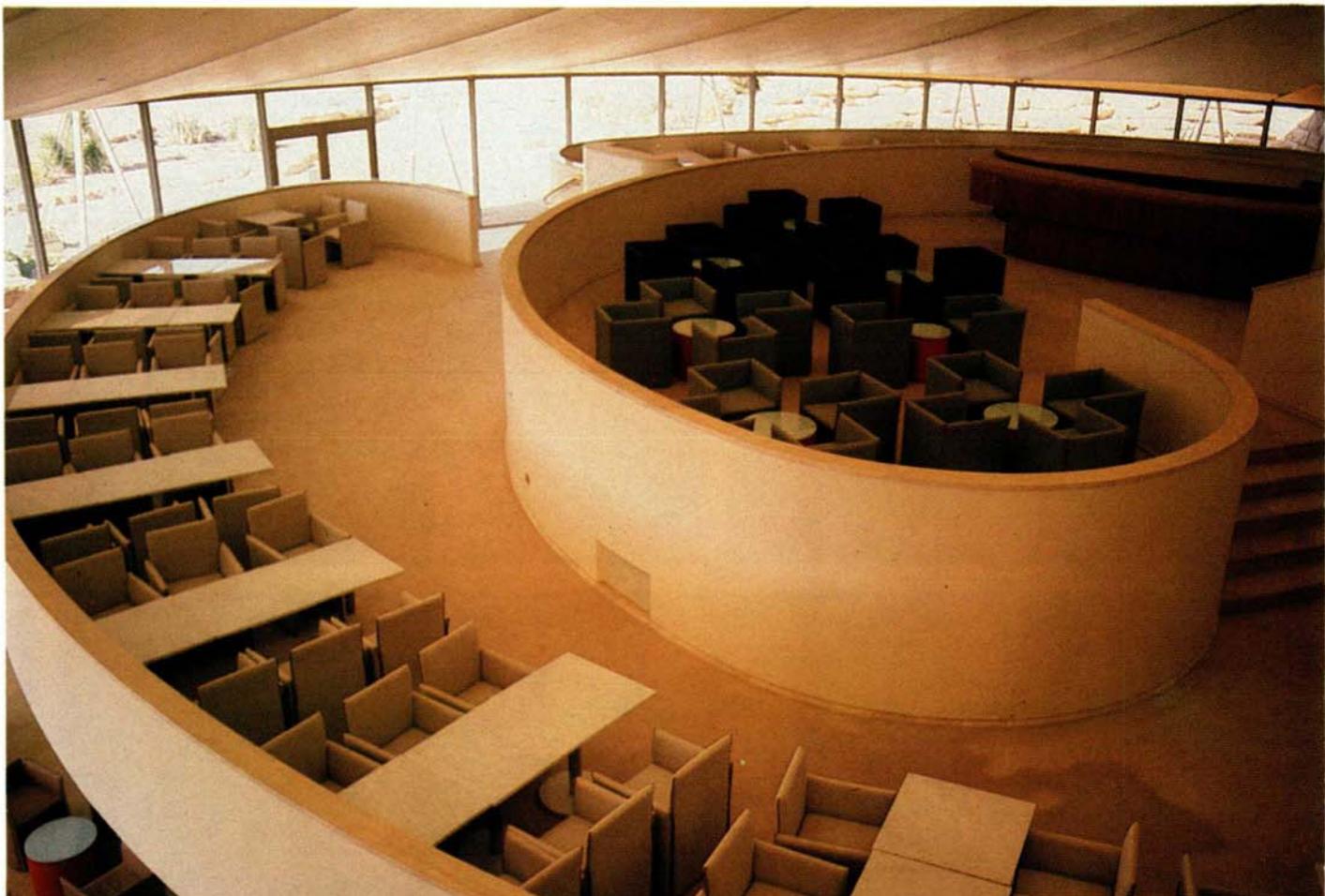
Within the Palace's massive walls is a guest house with four suites and twenty-five guest rooms, each viewing a panorama of the wadi. The guest house has a separate entrance and foyer.

Also within the massive walls is 200-seat auditorium with film projection and simultaneous translation facilities.

A computerized building management system monitors the electrical system, controls the air conditioning plant and regulates the lighting. This system also monitors and activates the fire alarm and fire fighting system.

The exterior landscape design blends man-made elements with the natural desert environment, encouraging the impression that the building has grown from its surroundings. The perimeter garden walls, terraces, steps and seating are all of rough-hewn stone, consistent with natural landscaping along the wadi edge beyond the building envelope. Planting is sparse and restricted to drought-tolerant species located in areas protected from the harsh climate.

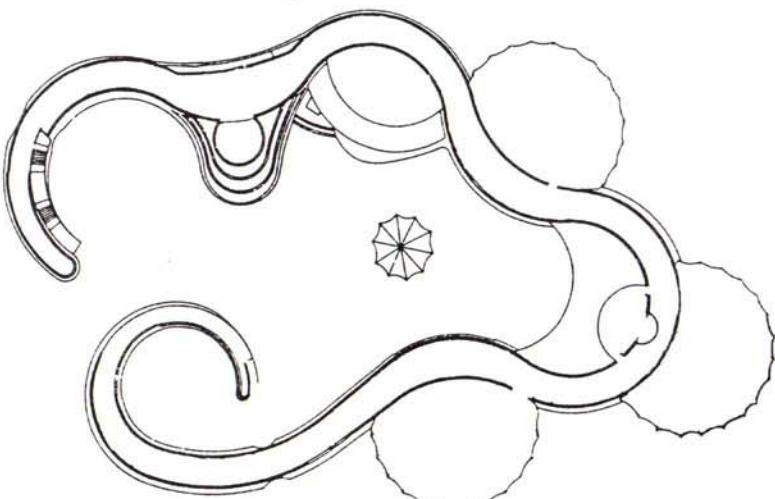
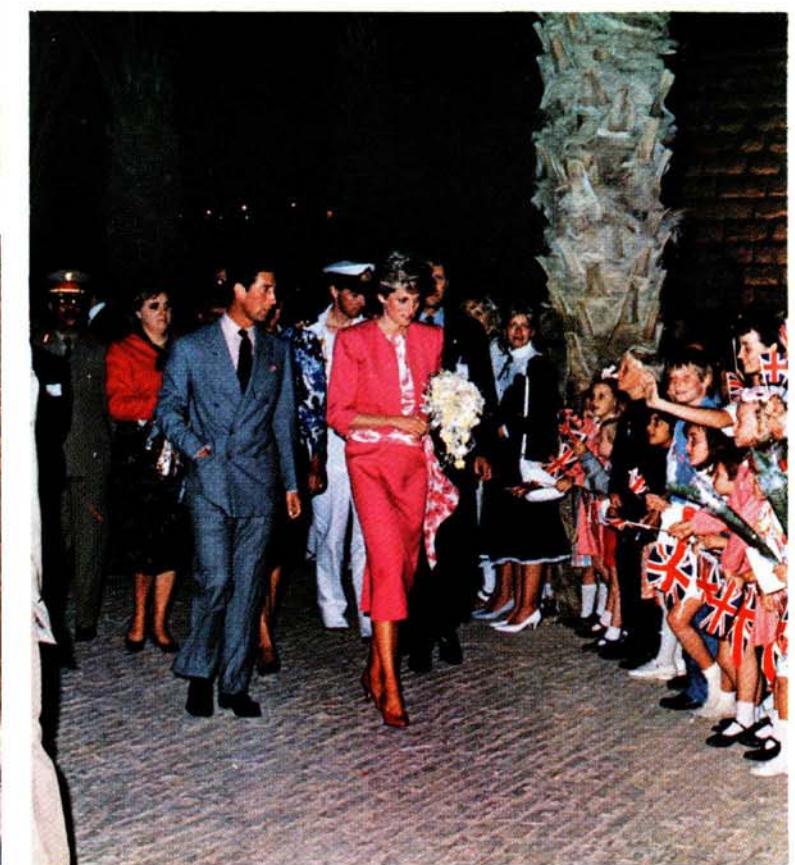
The contrast between the interior enclosed garden and the exterior environment of palm groves in the wadi and the desert beyond can be seen from a rooftop walkway and from the large windows on the ground level.





## Uses

Tuwaiq palace provides a wide range of services for Arriyadh. Its comprehensive facilities have already proved ideal for several national and international functions. It is particularly suitable for government receptions and seminars, diplomatic functions, cultural exhibitions and a wide range of technical, professional and scientific conferences.



## Facts and Figures



Tuwaiq Palace was designed and constructed by the High Commission for the Development of Arriyadh.

Site Area	77,000 m <sup>2</sup>
Gross Floor Area	24,000 m <sup>2</sup>
Area of interior garden	16,000 m <sup>2</sup>
Length of roof-top walkway	520 m.

Executive management and supervision: Arriyadh Development Authority

Design Team:	Omrania - Architects
	Frei Otto - Architects
	Burro Happold-Engineers
Contractor:	Hanyang Corporation

Designed and Produced by:

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