

ARCHITECTURE IN INDIA



Electa Moniteur

Jaisalmer

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Balconies and terraces
around a haveli.

The spectacular yellow sandstone city of Jaisalmer is located in the heart of the Thar Desert of Rajasthan, on the western border of India. Rising out of the vast expanse of sand which seems almost liquid in the blazing heat, Jaisalmer is a mirage, glowing golden like a jewel, textured rich by the sculptor's shisel and mallet. There is not a single running stream in the 15,000 square miles of desert land but, as the waters of the meagre monsoon drain down the sand hills, they are dammed to form lakes. Though ephemeral, they are the life source of the populace. The area can support only a sparse population. On an average there are two to three families per square mile, living in hamlets and villages scattered in an undulating landscape of ochre sand.

Jaisalmer was established in the early twelfth century by the Bhatti king Jaisal as the capital of his territories that lay to the east of the river Indus and north of the Rann of Kutch. The Bhattis were descendants of rulers who had built many glorious forts and cities in North India. But the ravages of time had pushed the illustrious race into an obscure corner of the Indian desert, with their capital at the ancient

trade city of Lodorva, some twenty kilometres from Jaisalmer. For reasons of defence, Jaisal sought a new location for his capital. The myth associated with the location of the citadel of Jaisalmer on the triple-peaked mount refers to Krishna who is said to have blessed the site with fresh water. The ancient water source, Jaislu Kuan, as it was called, was the focus of the early settlement on the mount. Jaisal ordered the citizens of Lodorva to evacuate the old city and lay out their houses anew in the new capital of Jaisalmer. In keeping with tradition, each caste was allotted an area known as *para*, in which to erect their dwellings and carry on their trade. The families closely associated with royalty were settled within the citadel, while the others built at the foot of the hill, extending the city to the North and the East, between the sandstone ridges.

From the time of its establishment in 1156 A.D up to 1300 A.D, Jaisalmer went through a period of growth and consolidation. The city flourished largely because of its location on the trade route between Persia and Central India. The crown filled its coffers by levying taxes on the merchants of the city and passing caravans.

The architecture and urban form of Jaisalmer are not the product of a self-conscious process of design, nor are they

* Biographical note : see page 176.

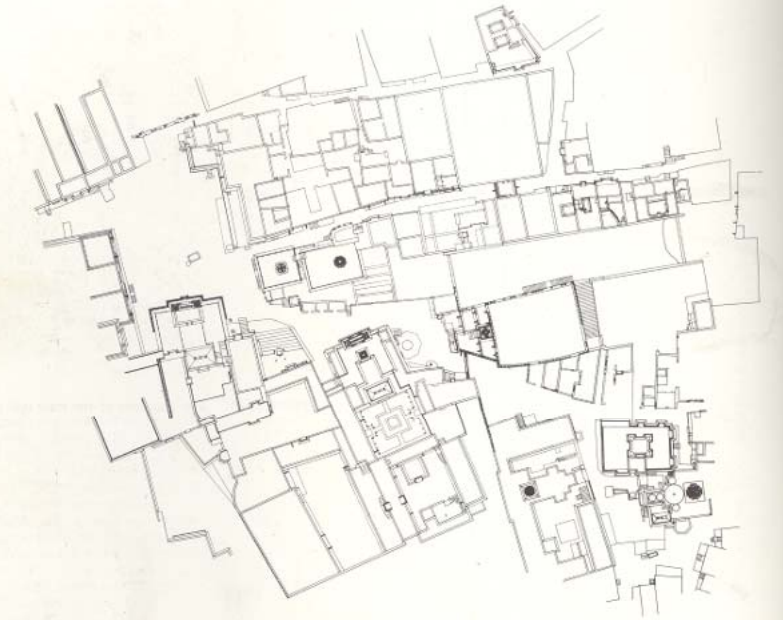
A street façade.

Opposite page :
a street.

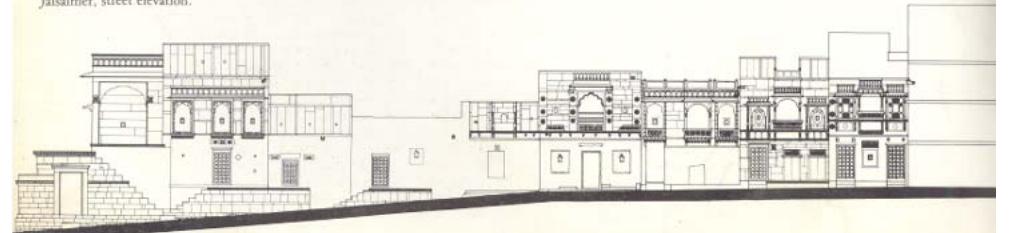




Layout plan at roof level.

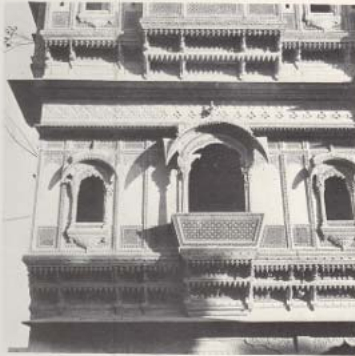


Jaisalmer, street elevation.



An elaborately carved façade.

A street profile.



of theological origin; they are the physical expression of forces that affect the daily lives of people, representative of their self-image, wealth and aspirations. Assimilation of the forces of social patterning, historical consciousness, political and cultural influences, religious habits and ritual, symbolic associations, topography, geography, climate, the restricted availability of materials, behavioural patterns, functions, and most of all the institutionalised craftsmanship have led to the richness, variety and vitally human qualities of the built environment.

Growing out of the hill, moulded by the elements, the wall of the citadel curves sinuously into battlements. The inner wall follows the curve of the outer wall and encloses between them an area for the weapons of defence. In a protective ring along the inner wall are the Rajput (warrior) households, who were responsible for manning the bastions. It is said that an underground passage connected the basements of the houses, forming a subterranean street that was used to distribute supplies of ammunition to the bastions during times of war and also provide the warriors routes of escape from the enemy.

The palace of the king is a part of the ring of Rajput houses, and controls the access into the Citadel through four large gateways or *poils*. The stone path from the city below winds its way upwards at a steep slope between the massive stone walls of the prisons, punctuated by circular watch towers and colonnades for the sentries, and leads into the main square. The royal square does not conform to rigid architectural canons and has grown into its present form through the centuries, guided by the changing relationship of the king and his subjects. It accommodates in the form of buildings his varied roles, as the religious and ceremonial head (temples and stepped platform), as the dispenser of justice (court), the protector and benefactor of the city (granary and gateway), and the symbol of pomp

and grandeur of the state (pleasure palace: *gunj vilas*).

Although the buildings are placed informally, in relation to the street pattern, they are always at the focus of the ceremonial axis of each activity. From the royal square, the inhabitants of the citadel distribute themselves into their *paras* through narrow streets. The streets traverse through each *para* and broaden into *chowks* from which narrower lanes diverge to each house. The *chowk* is a community meeting place. It is the location for a well or a temple. The streets are not mere passages but are a part of the hierarchy of open spaces that range from private to public. Their spatial qualities invite activity and interaction. They are narrow and shaded from the scorching sun, deep and winding to exclude the fury of the desert sandstorms, intimate in scale as the architectural elements occur at a pedestrian pace.

The territory of each house is expressed on the street by a raised platform. While lounging on these platforms, the men of the household seek the company of their neighbours, seated a few yards across, a few feet below or just walking by. From the platform, the entry into the house is defined by an elaborately carved door, guarded by the protective symbol of two horses flanking the lintel. The private inner courtyard is never visible from the front door. The floor steps over a threshold into the front room. Pitchers of cold water define the transition into the courtyard. The central courtyard is the core of the house. Its functions are many. It is a light well, a ventilation shaft, a play space for infants, a bathing and washing space, and an area for the activities from the adjoining rooms to spill into. Directly off the courtyard is a dining verandah, which extends around the corner to form a kitchen. The women in the kitchen are screened from view by a *jali*. In the dark depths of the house, behind the dining and cooking spaces, are the store rooms and the prayer sanctuary. From a

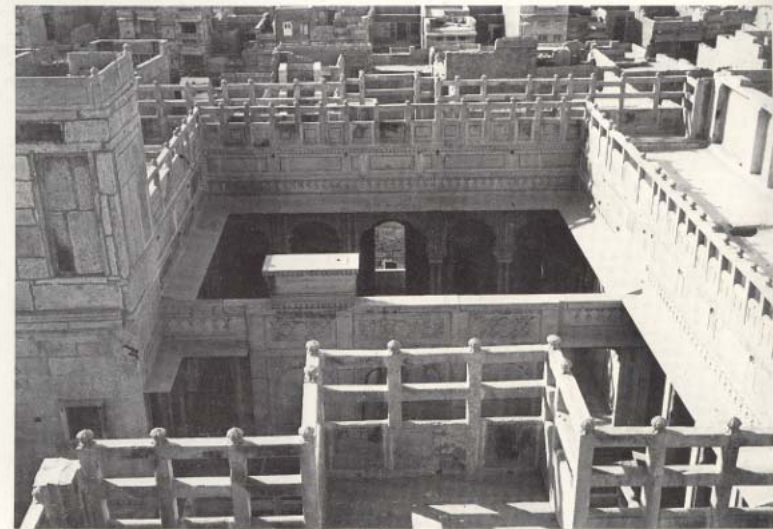
Detail of carving.



Steps and stairs.



The texture of the city as seen from the roof-top of a haveli.



corner of the courtyard, the staircase rises steeply to the upper floors. The rooms on the first floor are essentially used for sleeping. If the family is a large one, the houses go up to three, even four floors.

On the upper floors, the rooms extend into terraces and courtyards, bathed by the warmth of the welcome winter sun, but cooled on summer evenings and nights by the desert breeze. Balconies and carved screens perforate the walls of the upper rooms to funnel in the lightest breeze and to provide a point of visual contact with the street or courtyard below. The delicate screens allow the women of the household to peep down into the street. The terraces are treated as rooms open to the sky and enclosed by parapet walls. Punctured into the parapets are openings and perforations which allow the breeze to flow through at the level of the floor. From the vantage point of the terraces, the urban mass is seen as a series of open spaces at different levels. As the floors and balconies step out, they shade the streets below. Sometimes, they even bridge across the narrow streets and help articulate the boundaries of a community.

The city of Jaisalmer is densely formed with thousands of such courtyard houses packed closely together. Some of the houses are large, some small, some simple, some elaborate, but all follow the same basic principles of organisation and construction. When the citizens of Lodovra moved to Jaisalmer, they carried with them the exquisitely carved brackets, columns, lintel boards, prayer niches, parapets and screens as part of their treasured belongings. These building elements were carved out of the yellow sandstone available at quarries on the outskirts of Lodovra. The people built their new houses of the same material, incorporating their carved pieces wherever possible. It was almost as if their old houses were dismantled and reassembled again, chiselled and trimmed to fit the new location. The tradition continued in the later buildings, which also follow the established system of construction, weaving the city into one visual fabric. The construction was a highly sophisticated system of assembly in stone, which offered ample scope to the owner and the builder to express their individuality and creativity in the rendering and placing of the numerous pre-carved building elements, while maintaining at the same time a very strict order in the grammar of design. Thick walls of solid stone laid dry, or in lime or mud mortar, rise from the ground and enclose a basement. The roof of the basement is expressed at the ground level as a high plinth, articulated with a carved border of inverted lotus petals. Steps and stairs leading to the high entry platforms are ingeniously improvised to suit the special requirements of each house.

The thick stone walls continue upwards, with very few openings on to the street. Within the house they break into columns, piers and pilasters at the ground level. Carefully bonded into the walls are shelves, niches, lampstands, small perforations for light and ventilation, a figurine of a deity, hooks for drapes and wooden pegs for hangings. Each element is formed to suit a specific purpose - to store clothes, books, utensils, jars, grain, condiments or water pots. Their locations and shapes are predetermined, and yet they

seem to occur very casually. As the courses of stone rise to the level of the lintel, brackets emerge out of the walls. The bracket, in its most rudimentary form, consists of two or three courses of stone corbelled successively further out of a wall or column to support a lintel, balcony, a shelf, or a sloped awning above it. In the architecture of Jaisalmer, this elementary device, common to most traditions of stone masonry construction, has however undergone a process of evolution into a highly decorative, intricately embellished visual element. As a means of reducing the span of openings, the corbelled bracket courses evolved into three-pointed and five-pointed arch forms, eliminating the lintel altogether. As a supporting element for the balcony, *jharoka*, and floor projections, the bracket evolved into an intricately carved and moulded element which enhanced and characterised the typical street profile of the city.

The roofs are made of layers of timber logs, a topping of packed earth, and sometimes a finishing layer of stone. In the *havelis*, the roofs are often made of large stone slabs spanning across the width of the rooms. The public halls in the house of the rich are decorated spectacularly with ceilings of timber, inlaid with ivory, embossed mother-of-pearl and gilded floral patterns in paint or lime plaster. As the first floor steps out from the heavy stone walls on elaborately carved brackets, the walls dramatically transform in character into thin panels that cool quickly in the evening breeze. The facades break up into little balconies, protected by stone awnings or cupolas, filigreed panels, foliated parapet walls between slender columns, from whose capitals spring brackets that are often shaped into varied forms. At irregular intervals, prominent water spouts thrust out horizontally. Inside the pavilions of filtered light, the stone floor rises at the edges into window seats and benches overlooking the streets or inner courtyards. As the buildings rise higher, the facades become more playful. But at the rooftops, the strong order of the building system is expressed again by the reticulate trellis of railings and balustrades. The rectilinear balustrades terminate bulbously into lotus buds and point skywards. Form, pattern and line are at play in light and shade, creating rhythms on the streets of the city.