The Otla: A ‘Free Space’ in Balkrishna Doshi’s Aranya Settlement
Krystina Kaza, Unitec New Zealand School of Architecture

The role of otla in traditional settlements
Madhavi Desai, in her study of the house form of the Islamic Bohra community in Gujarat, states:

The entrance space as a transitional zone is an important concept in the cultural study of any traditional house form. A transitional space, open or semi-enclosed, is an essential component of the dwelling in the Indian context. It should be viewed in its plurality. At one level, it is an architectural solution to the problem of connecting the dwelling to the street. At another level, it is full of social meanings symbolizing welcome, auspiciousness and status. This necessary in-between realm is also an indirect form of passive control that shapes peoples behaviour on a day to day basis (Desai 2007, 70).

One particular response to this necessity for transition in the Indian context is the otla (also called otta or otlo), an architectural element that occurs in some traditional Gujarati homes. The otla has many variations known by many names in other parts of India, but generally performs the same function: it marks the transition from street to house, usually with a change in elevation, and often with a change in material (see Diagram 1).
Architect Mohit Keni describes the otla as…

differentiated from the street by its elevation and terracotta colour. It is the element of transition between the public (street) and the private (house) domains considered to be profane and sacred, respectively. It is the first point of contact of the house…Visitors are asked to remove their footwear…here before advancing into the interior of the house. It becomes a centre for informal gatherings of small groups adding life to the street (Keni 1994, 33).

In Ahmedabad, Gujarat, otla are a common element in houses located in pols - dense, traditional neighbourhoods consisting of a single, usually dead-end, street and protected by a gate. The otla serves an important social function in these neighbourhoods. The
Vastu Shilpa Foundation for Studies and Research in Environmental Design (VSF) states that the otla “acts as a transitional element where socializing and neighbourly interaction takes place on [a] day-to-day basis across the street (See Image 1). Thus streets are not simply vehicular conduits but are in essence linear open spaces for group activities¹ (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1997, 27).”

Pratima Mehta, who grew up in a pol house in Desai-ni-Pol in Khadia, part of Ahmedabad’s walled city, emphasizes this social role of the otla in daily life. In her story booklet “Memories of My Pol in Old Ahmedabad,” she states, “Our elder grandmother, Jadavba, used to sit on the otla in the evening and women from the pol would come to discuss with her their personal and social problems, seeking solutions” (Mehta 2009, 17).

Not all otla, however, served as social meeting places. Madhavi Desai states, in her study of Muslim Bohra dwellings, “Unlike the Hindu otla that becomes a physical extension of the house/street, the otla in Bohra dwellings is seldom used as an activity or interaction space. The relatively higher plinth of the otla not only reveals the residents’ social status but also protects their strong notion of privacy that is essential in an Islamic community”² (Desai 2007, 73-74) (see Image 2). However, Desai does note the otla’s role in conveying social meanings symbolizing welcome, and emphasizes that the otla “remains an aesthetic and symbolic part of the house as far as the social activities of the Bohra families are concerned” (Desai 2007, 70).

Generally, the otla constitutes the space in which residents publicly express cultural values and create a unique identity for their home. As a result, the otla often contains a great deal of personalization and decoration. In traditional houses the otla contains a great deal of highly ornate woodcarving (See Image 3).

Madhavi Desai states:

The main entrance door…forms an important element in the composition of the façade in Islamic (and other) cultures. Intricately carved in wood, one often finds inscriptions from the Quran engraved on its wooden lintel or frame. In traditional Hindu houses of Gujarat the lintel at the entrance has auspicious motifs and a God or a Goddess’ image. This wooden lintel is often called Ganeshpatti, after God Ganesh. The symbolic importance of the entrance of the Bohra house is also often
emphasized by the construction of a highly decorated doorway (Desai 2007, 74).

The otla serves as an important site for religious activities in Hindu households. According to Desai, “In a Hindu community, the traditional street is a social space and primarily an area of communication and social exchange. It is an extension of the house to be used during different periods of the day and season for various purposes” (Desai, 94). During festivals and weddings, neighbourhood otlas are richly decorated with rangoli (sandpainting) and symbolic decorations, many of which are considered to be auspicious.

In Ahmedabad pols, the otla establishes a coherent social character for a neighbourhood and mitigates harsh climactic factors. Kanika Agarwal notes the close relationship between social considerations, climactic considerations and the urban morphology of the pols. He states:

The character of the pol itself is defined by the transitional spaces called otlas….

Individual houses have a deep plan with the small side facing the street. A pol would get organised generally by people of the same social group or community. Thus the city characteristically grew very organically into a dense built fabric, reflecting not only the culture of the local people but also the climate it was set in (Agarwal 2009, 1).

This dense urban fabric with houses sharing party walls and set on long sections thus developed as a response to social, cultural and climatic factors. The otla establishes a coherent social character for a neighbourhood and mitigates harsh climactic effects. Agrawal later states, “All throughout the year, the ‘otla’ …is one of the most comfortable urban areas due to the high degree of shade on it throughout the day” (Agarwal 2009, 5).

Partly because of these climactic considerations, many household activities take place on the otla of an Ahmedabad pol house (see Image 4). The VSF states:

[The] street comes alive right through the day break with washing, cleaning and water filling activities taking place on the front otta and street edges, where chowkdi (wash places), water taps and drainage connections are provided…Ottas
get occupied by women washing clothes and utensils, filling water, while man
[sic] brushing teeth, reading newspaper or drinking tea … Occasionally young
children are found playing on otta (The Vastu Shilpa Foundation for Studies and
Research in Environmental Design 1997, 19).

In many pol houses the otta also contains, in a separate room and off to one side, the
toilet and washing facilities for the house (see Diagram 2).

**Aranya background**

Aranya (which means ‘forest’) is a sites-and-services township for 40,000 people in
Indore, Madhya Pradesh State. The Indore Development Authority (IDA) developed the
settlement, with the World Bank and the Housing and Urban Development Corporation
(HUDCO) providing part of the capital for the settlement as a loan. In 1981, the IDA
hired the VSF to design the layout and infrastructure of Aranya. Balkrishna Doshi, who
heads the VSF and founded it in 1978, worked with Le Corbusier on the master plan for
the city of Chandigarh. Dr. Doshi is, therefore, an architect steeped in modern planning
principles, but with a very strong interest in traditional Indian architecture and
settlements.³ He established the VSF to initiate “research, studies and investigations
relevant to the study and practice of architecture and planning in the Indian context, with
a focus on the relationship between tradition, culture and lifestyles of people with
architecture and planning” (The Vastu Shilpa Foundation for Studies and Research in
Environmental Design 1990, iii-iv).

In a sites-and-services project like Aranya, the bulk of investment is spent on land and
infrastructure. While the VSF designed the master plan for the settlement, residents were
left to build their own houses incrementally. Aranya is also a mixed-income settlement,
although most of the settlement’s plots are intended for the Economically Weaker Sector
(EWS), or poorest sector, of the population. The 35.32 square meter EWS plots are all
serviced to some degree: they contain a core sanitary unit, consisting of a washroom and
toilet facilities, and some also contain a plinth and one room (The Vastu Shilpa
Foundation for Studies and Research in Environmental Design 1990, 22). To maximize
land use and limit incident solar radiation, EWS plots are long and narrow with houses sharing walls and facing North-South (See Diagram 3).

Due to the small size of plots, the VSF created a hierarchy of shared open spaces that ranges from semi-private to public. The fabric of the EWS neighbourhoods therefore resembles the dense urban fabric of traditional neighbourhoods. Middle Income Group (MIG) and High Income Group (HIG) neighbourhoods, however, resemble that of a colonial/modern fabric, with freestanding houses built on large, walled plots and few shared spaces (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1990, 68). The dense fabric of the EWS neighbourhoods, along with the small, long and narrow plots and the availability of water for a limited time each day, are key contributors to the unique environment created in the EWS neighbourhoods. This, in turn, contributes greatly to the development of traditional elements, such as otlas, in these neighbourhoods.

**Design of Aranya settlement**

Overall, the design of Aranya might be considered a tightly controlled master plan with a certain amount of freedom built into it. The layout of the settlement, the hierarchy of open spaces and streets, and the services infrastructure are all highly controlled elements of the design. The VSF intended, however, to build a degree of flexibility into the planning of EWS neighbourhoods. It states:

> House extensions not only help to expand a small house, but in the process, they also enhance the quality of public spaces. Such an important, but often neglected, aspect of habitat planning was given due recognition in the Aranya project...Changes in the conventional building and zoning regulations envisaged the creation of a transition zone of 0.5 m width between the street and the house, where people would be allowed to build house extensions. The permissible house extensions were stoops, platforms, porches, balconies and open stairs, which would create interesting street character (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1990, 66)
In addition to this allowance, the VSF designed eighty demonstration houses (See Image 5) to show “how interesting variations can be created by house extensions, staircases, balconies and projections…[using] interchangeable components which in different combinations would each time create a unique house in the same overall plot dimension and starting with the same basic core” (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1990, 70). These houses, although intended to be merely exemplary, constitute a designed vernacular unique to Aranya, whereas local builders built the remainder of EWS houses, with strong design input from the residents.  

Aranya otla design

Otlas in Aranya are greatly varied.  Although an otla generally consists of a platform across the entire front of the house, one finds a multitude of variations within this basic form. The depth of the otla often relates inversely to the size of the house: a smaller house will have space for a deep otla in front, and a larger house will have a narrower otla. The otla may be humble or elaborate, it may be a solid block or a thin slab: it may be highly decorated or quite plain (See Image 6). Otla design often depends on the house’s location within the larger cluster plan. A house on a corner plot, a plot next to a courtyard, or a plot next to a vacant site may have an otla that wraps around the house (See Diagram 4) and serves as the transitional space for more than one door (See Image 7). Similarly, a house with a vacant site or a courtyard behind it may have a rear otla serving as a transitional space for a rear door (See Diagram 5 & Image 8).

As the otla generally creates a transition from public space to private space, it is important to consider how variations in otla design affect this transition in EWS houses. A gated or fenced otla creates a greater degree of privacy than one without a distinct threshold, although the level of privacy attained depends on the height, solidity and thickness of the threshold (See Image 9). Similarly, a higher otla separates itself more profoundly from the streetspace, and therefore becomes more strongly associated with the private space of the house. A deep otla extends the transition from street to interior of the house, making the transition more gradual. Variations in a single otla may create a hierarchy of transitions for a single house. In one example (see Image 10), a courtyard
house’s side otla is lower than the front otla. This connects the interior of the house more strongly to the courtyard than to the street. Façade treatment reinforces this hierarchy: painted detail on the front of the house establishes a formal identity for the house, while the side façade remains undecorated and informal.

**Functional role of Aranya’s EWS otla**

In discussing the function of the EWS otla, one may make a basic distinction between the residential otla and the commercial otla. Because most businesses in EWS neighbourhoods are located within houses, a single otla may serve a dual function. The distinction between residential otla and commercial otla may be established explicitly or subtly, and may be reinforced with a painted façade or a sign (see Image 11). Often, business-related goods stored on the otla signify the presence of commercial activity (See Image 12). While the residential otla creates a transition from public space to private space, the commercial otla serves primarily as a public space of service. By standing on a commercial otla, a person states his intention to purchase something or make use of services offered.

The Aranya otla also supports various daily household activities. In EWS neighbourhoods, taps in the street provide water for one hour in the morning and one hour in the evening. Prior to this time, residents line up buckets on otlas in preparation for water collection, and run hoses from street taps through doors in the otlas to underground water reservoirs (See Image 13). During water collection, the otla becomes a space of lively social interaction, with neighbours chatting to each other and mobile vendors selling everything from vegetables to jewellery. Shortly after water collection, women may be seen washing clothes, dishes and, sometimes, children on the otla (See Image 14).

Otla are also used for storing family possessions. Otla steps often contain small ramps for wheeling bikes, mopeds and motorcycles onto the otla or into the house. Households with electric water coolers (a form of air-conditioning for the house) often locate these large appliances on the otla (See Image 15). Other household items that may occupy the space of the otla include drying laundry, shoes, beds, sewing machines, bird cages, television
antennae and satellite dishes (See Image 16). Household or income-generating activities performed on the otlas include purchasing food purchase from mobile vendors, preparing food, studying, reading, playing, sewing and even blacksmithing. Finally, utilizing the otlas space to accommodate a staircase to the first floor constitutes an effective strategy for conserving space within the small EWS house (See Image 17).

Social/cultural role of Aranya’s EWS otlas
The otlas play an important role in a neighbourhood’s social activities. As mentioned earlier, otlas become highly social spaces at times of water collection. During the day, women chat on the otlas while keeping an eye on children playing in the street. At times of festivals or other celebrations, an overhead canopy unifies the street and its otlas, turning both into a large outdoor room in which activities take place. Similarly, when itinerant performers visit an EWS neighbourhood, residents (especially women) watch the show from the otlas (See Image 18).

In Hindu households, the otlas may serve as an important site for religious functions. During Diwali, the oltas are decorated with rangoli (sand paintings) to welcome Laxmi, the Goddess of wealth, into the home, and to symbolize warm hospitality to visitors who come to exchange greetings and sweets. Just as a Ganeshpatti would be carved into the lintel of a traditional house, in Aranya they often take the form of tiles and statues embedded in the plaster above the door (See Image 19). Similarly, an image of Christ or a cross may hang above the door of a Christian household. Other doorway decorations include the toran or the bandhandwar, a garland that hangs in the doorway and conveys auspiciousness, happiness and welcome. Painted handprints next to the door are also considered auspicious. Many EWS otlas contain a tulsi, or holy basil, plant, which is sacred to Hindus and used in Ayurveda for its medicinal properties (See Image 20). Otlas are also used for feeding sacred cows that live in the streets and are looked after by residents of a neighbourhood (see Image 21). Finally, otlas often contain shrines. Some of these are very small, simple and personal, while others are quite large, colourful and elaborate and may be used by an entire neighbourhood (see Image 22).
Symbolic/identity role of Aranya’s EWS otla

The otla in Aranya’s EWS neighbourhoods play an important role in creating for each house, and for each street, an individual identity. This is achieved through distinctions in otla form, and through variations in the colour, detailing and decoration of the otla. Variations in otla form from one house to the next combine to create quite sculptural street edges in many EWS neighbourhoods. This is especially true when subtle shifts in otla stair heights occur in adjacent houses (See Image 23). The use of colour, whether applied directly to the otla, or whether resulting from some combination of materials, also strengthens the unique identity of an individual house, as do the patterns found on otla tiles and door curtains (See Image 24).

More generally, however, the otla’s role as a functional, social and symbolic space also makes it a visually fascinating space. Each otla’s combination of stairs and ramps, stored bikes and buckets, water reservoir doors, water coolers, drying laundry, chatting neighbours, tulsi plants and shrines, allows it to communicate something about the people who live in each house, and, in a broader sense, the culture in which they live (See Image 25 & 26). Even the simplest otla will communicate something.

One may conclude that the EWS otla in Aranya greatly contributes to the spatial quality of EWS streets in terms of visual interest, functionality, social liveliness and cultural relevance (See Image 27). In order to further emphasize this point, one may compare an EWS street to a street in the low-income housing community just to the Northwest of Aranya (See Diagram 6). A simple visual comparison reveals the unique character of EWS streets. In the neighbouring low-income housing settlement, in which the Indore Development Authority (IDA) designed and built multi-unit dwellings, no transitional space was provided at the street level, and entrances to individual units are separated from the street by a layer of internal circulation. High blank walls line a street that lacks colour and detail, and serves primarily as a vehicular and pedestrian route (See Image 28).

Conclusion – the Aranya otla as a hybrid vernacular element
“The vernacular design process is one of typological models and of modifications and variations therein, where the individual unit and not the house type is adjusted, adapted or personalized. The vernacular urbanity has an underlying structure within its overall organic attitude that leaves room for human expression and creativity” (Desai 2007, 103). This quote from Madhavi Desai sheds an interesting light on Aranya's EWS neighbourhoods, which are unique in that their underlying order, rather than having developed organically over a long period of time, is imposed by the author(s) of the master plan. Yet, Aranya's master plan, for all of the control it imposes, also grants a certain amount of freedom – the freedom for residents to build as they see fit, and the 0.5 metre ‘free space’ at the front of each house, which encouraged adaptation and variation. This small space serves as the site in which the social and cultural forces that shape traditional architecture could exert themselves on an otherwise highly planned settlement. As such, the EWS otla in Aranya constitute a unique hybrid vernacular element, and serve as evidence that ‘human expression and creativity’ will take root in even the smallest of spaces.

Endnotes

1 Jethnabhai ni pol, according to the Vastu Shilpa Foundation Study, is 94.7% Hindu, 4% Jain, and 1.3% Christian (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1997, 3).

2 Typically Bohra houses were 6-7 feet above the level of the street. Compare Diagrams 1 & 2, and Images 1 & 2, for otla heights in Hindu & Bohra houses, respectively.

3 In 1987 Doshi wrote, “I learned from Le Corbusier to observe and react to climate, to tradition, to function, to structure, to economy, and to the landscape. To an extent, I also understand how to build buildings and create spaces and forms. However, I have in the last two decades, gradually discovered that the buildings that I have designed seem somewhat foreign and out of milieu; they do not appear to have their roots in the soil. With the experience of my work over the years and my own observation, I am trying to understand a little about my people, their traditions, and social customs, and their philosophy of life” (Archnet 2010).

4 Lower Income Group (LIG) plots range from approximately 56-92 square meters, the Middle Income Group (MIG) plots range from 139-223 square meters, and High Income Group (HIG) plots range from 139-474 square meters (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1990, 68).

5 Doshi’s list of drawings prepared for the project reveals the high level of planning involved in the design of Aranya: “Numerous drawings were prepared for the project. They included master plan, detail layout of each sector, all demonstration housing, public buildings, landscaping and infrastructures. They included
miscellaneous drawings regarding details of landscape, stone paving on streets, etc. (The Vastu Shilpa Foundation for Studies and Research in Environmental Design 1990, 143)

6 Cynthia Davidson notes: “The 80 houses designed by Doshi and the streets that define those houses are noteworthy. The remaining plots have been developed by their owners, built and embellished in a personal manner that does not follow Doshi’s models” (Davidson 1995, 70). It is interesting to note that ota in the demonstration houses are often deeper than those in the self-built houses. Also, they tend to be more private: many of them are partially walled off to create outdoor rooms. This may have something to do with the fact that the VSF originally envisaged EWS houses to have internal courtyards, like many traditional (including pol) houses do. In my documentation of Aranya, I found only a few EWS houses with internal courtyards in the 44 that I documented and approximately 20 that I visited informally. Many residents said they did not feel there was adequate space within their home for an internal courtyard.

7 Most of the information I present below with respect to Aranya comes from my personal observation and documentation. In 2003-2004 I spent nine months in India documenting Aranya on a Fulbright Grant. During that time, I completed a comprehensive survey of the entire settlement and documented, in plan, a cluster of forty-four houses. Although I came to know many of the residents well during this time, and although I had the services of a translator (Hindi & Marathi) for one week, my investigation was limited by my general inability to communicate. As a result, my focus in this paper is on elements of design that could be documented and aspects of life in EWS neighbourhoods that were directly observable.

8 Due to the placement of the core sanitary units at the rear of the EWS plots, almost all houses that are built incrementally are built from the back of the plot to the front. A small house will therefore have a large open space at the front of the plot.
Image 1: A typical otla in an Ahmedabad pol (photo: Vineeta Nair*).
Image 2 – The high otla of the Bohra dwelling (Desai 2007, 44).
Image 3 – Bohra house otlā: visual richness as a form of cultural expression (Desai 2007, 44).
Image 4: Women washing clothes on an Ahmedabad pol house otla (photo: Namit Arora*).

Diagram 3 – plan of EWS neighbourhood in Aranya’s Sector Four, showing small plot sizes, shared walls and North-South orientation of plots (The Vastu Shilpa Foundation
for Studies and Research in Environmental Design 1990, 144).

Image 5 – Balkrishna Doshi’s vision of Aranya demonstration housing streetscape – note the important role that otla play in shaping the street.
Image 6 – A narrow otla (left), a large otla in front of a small house (right).
Diagram 4 – EWS houses with potential for wraparound otla.
Image 7 – Wraparound otla on courtyard house (left) and on corner house (right).
Diagram 5: Plots with potential for front and rear otla.
Image 8 – Rear otla on EWS houses.

Image 9 – Enclosed otla with thin wire fence (left) and with solid wall (right).
Image 10 – The otlā may create a hierarchy of transitions for a single house.
Image 11 – Otla with no distinction between commercial/residential space (left) & with wall between commercial/residential space (right).

Image 12 – Goods stored on otla signify location and type of commercial activity, and, in photo on right, distinguish between residential and commercial use of otla.
Image 13 – Water buckets stored on otla for water collection (left), water reservoir located in otla (right)

Image 14 – Woman washing a small child on the otla (left), streets become active at water collection times, with neighbours chatting on otlas and mobile vendors selling their wares (right).
Small ramps contained in many otlas make it easy for two-wheelers to be stored on the otlas or inside the house (left), water cooler stored on otlas (right).

Storage of bikes (left) and a small bed (right) on EWS otlas.
Image 17 – Location of stairs within the space of the otla conserves space inside the small EWS house (left), a blacksmith and his wife demonstrate how they use the otla as a workspace (right).

Image 18 – Residents watch itinerant performers from an otla (left), a street and its adjoining otlas are turned into an outdoor room in preparation for wedding festivities (right).
Image 19 – A ganeshpatti consisting of a single tile and painting – note tulsi plant on adjoining otla wall (left), and one consisting of a small statue, three tiles and a painting (right).
Image 20 – Tulsi plants growing in special planters built into otlas.

Image 21 – A cow makes use of a demonstration house otla to request his dinner.

Image 22 – Two examples of temples contained within the space of the otla. Note the tulsi plant in front of the temple and the handprints painted next to roller door in image on right.
Image 23 – Variations in otla stairs create visual interest along EWS streets.

Image 24 – The use of colour on the otla, whether painted and bold (left), or subtle and achieved with a variety of materials (right), helps to build a unique identity for the house and the street.
Image 25 – The otla’s colour, detail, decoration, form and use communicate something about the inhabitants.
Variations in colour, detail and use establish a unique identity for each EWS house.
An Aranya EWS streetscape: dwelling units are separated from the street by the transitional space of the otla, variations in otla create visual interest and identity, and the street becomes a space of interaction.
Diagram 6 – Satellite image showing location of Aranya settlement (pink) in relation to the IDA’s neighbouring low-income settlement (yellow). Image: Google Earth (highlighting by the author).
In the low-income housing project to the Northwest of Aranya, stairwells serve as a transition only from public to semi-public space, and therefore provide little opportunity for personalisation, decoration, or usefulness in terms of daily activities.
Image 28 – Blank walls define the public space of the street, which serves primarily as a conduit for vehicular circulation. Private balconies afford little opportunity for interaction with neighbours.

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Bibliography


