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## **The Vernacular Architecture of Doha, Qatar**

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*SUMMARY: The urban history of the Gulf states has been largely neglected with historical studies of Qatar focusing on its political and economic development. This article presents an overview of the vernacular architecture of Doha that incorporates non-elite buildings. The life histories of these buildings tell the story of Qatar's rapid development in the 20th century and the dramatic changes to the society and urban fabric of its capital. Rapid development threatens to destroy this aspect of Qatar's past and we accordingly aim to record the diversity of the historic built environment of Doha.*

### INTRODUCTION

This paper outlines and contextualizes a sample of traditional architecture in Doha, Qatar, recorded by the *Origins of Doha and Qatar Project*, a UCL Qatar research project funded by the Qatar National Research Fund (a member of Qatar Foundation). The project explores the foundations and historic growth of Doha, its transformation to a modern city, and the lives and experiences of its people, through a combination of archaeological investigation, historical research and oral testimony. Archaeological work includes excavation in the historic core of Doha as well as the programme of historic building recording.<sup>1</sup> This paper is part of a series of articles focusing on the architecture, urban plan and historic growth of Doha. It examines four case studies, comprising two humble dwellings in the Msheireb and Old Al-Ghanem districts, a composite building containing four similarly modest dwellings in Najada, and a relatively wealthy elite courtyard house in the former district of Jasra (now considered part of Msheireb). It focuses on their plans, architectural construction and use of

space, including adaptation and subdivision during their long history of use following their construction and first occupation. We intend this paper to be followed by a companion piece in which the internal architectural features and decorative elements of Doha's traditional and transitional (1950s) architecture are examined more closely, using a range of data and a specific particular case study in Al-Asmakh district, and in which adaptation to the current phase of multi-occupancy is explored in detail.<sup>2</sup>

Studies of the history of Qatar traditionally focus primarily on its political and economic history, and do not explore the development of Doha and its inhabitants in any detail.<sup>3</sup> The urban history of the Gulf states has also been largely neglected, in part due to a lack of textual evidence and in part a result of the emphasis placed on the supposed "Islamic city" in distant regions of the Levant and North Africa.<sup>4</sup> Some work has been carried out on the traditional architecture of Doha,<sup>5</sup> Muharraq,<sup>6</sup> and the Gulf more broadly;<sup>7</sup> however these works have focused mainly (albeit not exclusively) on elite architecture, and neglect the full occupation history of their case studies and architectural elements, tending to treat them as static and essentialised products of a timeless tradition. None of these publications incorporate the adaptation of traditional structures and building techniques associated with the transformation of Arabian society in the post-oil period.

There has been considerable interest in the meteoritic growth of the Gulf's urban centres associated with the creation of hypermodern cities over the past few decades. The reconstruction of Doha's urban fabric, as it is deliberately transformed from a small port into a modern capital with regional and global ambitions, has attracted considerable interest.<sup>8</sup> Yet these studies are almost exclusively from the perspective of

modern urban development, redevelopment and urban planning. The limited work that has been undertaken to record Doha's standing architecture and buried heritage and the rapid pace of change reinforces a stereotype of Doha as a modern city without a past.<sup>9</sup>

The study of vernacular architecture provides insight into the relationship between structures, artefacts, and behaviour as well as a more general picture of society viewed from the perspective of the household.<sup>10</sup> Within historical archaeology there is a growing recognition of the importance of standing buildings as a key aspect of the archaeological record.<sup>11</sup> In Doha, architecture contemporary with that recorded in excavations in the historic core of the town still stands in some of the older districts of the city. The case studies of vernacular domestic architecture presented in this study show that modern Doha has a tangible past that is visible in the vernacular architecture of the city. This built heritage not only illustrates what the city looked like a generation or two ago but allows us to examine the changes Doha has experienced over the last 40 years. Sadly much of the historic urban fabric of the city is being destroyed with little or no record.

#### A BRIEF HISTORY OF DOHA

The capital of Qatar started life as a small fishing village called Bida', said to have been settled by the Sudan tribe (s. Al-Suwaidi) at the start of the 19th century. The British representative in Muscat, David Seton, describes Bida' in 1801 but makes no mention of Doha. The latter was founded by the Al Bu 'Ainain about 1.5km to the east of Bida' shortly afterwards<sup>12</sup> and both appear as separate settlements on a map and accompanying description produced by Lieutenant Guy and Lieutenant Brucks

for the East India Company in 1823. An 1860 map by Constable and Stiffe shows the two towns of Doha and Bida‘, both now walled and with internal forts, with a spread of habitation between them that they name as 'Doheh Seghīreh' (Little Doheh).<sup>13</sup> The linked towns were collectively referred to as Bida‘ in the 1860s, but by 1908 Doha was the name used for the conurbation, as well as being used as a specific district name to denote the oldest core of Doha town.<sup>14</sup> None of the earliest architecture of the capital is visible today, but excavation has revealed up to 2.00m of stratified archaeological deposits in the centre of Doha.<sup>15</sup>

Doha was a medium-sized port dependent on pearling with a population of around 12,000 at its pre-oil peak<sup>16</sup> and the collapse of the pearling industry after the Wall Street crash of 1929 had a devastating impact on the town.<sup>17</sup> The economies of the nascent Gulf states were rescued by oil concessions, with the first exclusivity agreement for oil exploration in Qatar signed in 1932. The wealth that oil brought resulted in dramatic changes to the country. Modern construction materials allowed new types of buildings, piped water and electricity were introduced, and from the early 1950s Doha rapidly expanded as people moved from the villages and deserts of Qatar, and from outside Qatar, into Doha.<sup>18</sup> The expanding oil economy created a need for large numbers of workers, who came primarily from South Asia, leading to a significant change in both the volume and type of immigration experienced by the Gulf States. Previous arrivals to the region were predominately agricultural, pastoral and fishing groups from inland Arabia and the Persian and Arabian shores, including urban merchant families, craftspeople, and enslaved people. In contrast the great majority of later 20th-century migrants represent unskilled labourers from outside the region.<sup>19</sup> The first Qatari census was conducted in 1970, at which time 40.5 percent of

the population were Qatari, today it is estimated that as few as 15% of the population are Qatari nationals.

The introduction of a policy of formal public housing provision for the native Qatari population in 1964 had profound impact, encouraging Qataris to move from traditional houses (of both pre-oil and post-oil date) in the centre of the city to modern western style houses in zoned developments on the edge of the city.<sup>20</sup> The chronology of Qatari departure from the older (pre-oil) districts and the development of newer 1950s neighbourhoods is under-researched, but data gathered by Nagy indicates that Qatari families were vacating 1950s builds during the late 1970s and early 1980s; one family left Doha Al-Jadeed (a new suburb built to the south of Najada in the mid to late 1950s) for Mansoura in 1978, while another left Al-Asmakh for Hilal in 1983.<sup>21</sup> An earlier wave of movement in the 1950s and 1960s had seen the initial occupation of the 1950s houses, under discussion here, as people moved from the oldest districts into new suburbs. Throughout this process, older and now less desirable traditional houses in the centre of the city were inhabited by non-Qatari migrant workers. More recently a desire to regenerate the centre of Doha has resulted in the ongoing demolition of what are now overcrowded and run-down areas in an attempt to re-establish a stronger element of Qatari identity to the centre of the city.<sup>22</sup>

## VERNACULAR DOMESTIC ARCHITECTURE IN QATAR

Domestic architecture represents the types of buildings with which we are most familiar with and most comfortable in. Family homes are a physical expression of the needs, beliefs, and aspirations of the people who occupy them. House exteriors act as a method of communication with strangers, and the space within is where hospitality

is shown, where values and customs are shared with visitors.<sup>23</sup> Key elements in house design are the location, topography, climate and natural conditions such as the availability of building materials and the level of available technology. These factors in turn are mediated by cultural norms, traditions, economic resources and ideology.<sup>24</sup> As cultural factors play such an important role in defining vernacular style, vernacular architecture is also an expression of the social values of its inhabitants.<sup>25</sup> Furthermore, houses are a physical expression of the way in which these values are reproduced by society.

#### CLIMATE, SHADE AND COOLING

Until the later 20th century Doha's urban fabric consisted of tightly packed agglomerations of houses separated by narrow alleyways, providing mutual shading, privacy and security. Prior to air conditioning stone walls, measuring up to 0.60m thick provided thermal insulation, reducing the amount of heat conducted to the interior of the building. External façades had few windows in order maintain privacy and to help keep the building cool. Internal shuttered windows were often shaded by a wide veranda, minimising solar gain. *Badgir* was a form of traditional construction which channels air through a building in order to cool the inside of the structure. The term encompasses both wind towers and wall vents, and here we refer to the latter. A large open yard helped to promote the circulation of air around the building.

Horizontal openings around the base of walls created a cooling breeze, similar horizontal air-gaps within ventilated roof screens also create air circulation. Carved and pierced gypsum panels provided a decorative feature, as well as promoting airflow within the house. Wind towers were very rare in Doha, being known only

from the Mohammed Said Nasr Allah House,<sup>26</sup> unlike in some parts of the Gulf (most famously Bastakiyyah district, Dubai).

#### VEILED ARCHITECTURE, PUBLIC AND PRIVATE SPACE

The concept of privacy, especially as applied to female members of the family, is a defining element in Islamic societies. This is closely linked to a differentiation between males and females in response to both the principles of Islamic religion, and in acknowledgement of cultural norms. Therefore, houses in the Islamic world are to this day physically partitioned in accordance with activity, function, gender and strict rules around privacy. The hierarchical division of space in the Islamic world can be summarised by four categories:<sup>27</sup>

Public space: The main streets and public squares in a city, shops and suqs, mosques and meeting halls.

Semi-public space: Narrow intimate shaded lanes and dead ends, cul-de-sacs linking public spaces with the privacy of the home.

Semi-private space: Areas in the home in which interaction takes place with staff, service personnel, visitors etc.

Private space: Areas such as bedrooms, reserved solely for family members.

#### TRADITIONAL QATARI HOUSE LAYOUT

Prior to the 1960s most of the houses of Qatar's settled population consisted of a rectangular walled yard (*housh*) with simple rectangular single storey structures abutting the external courtyard wall, each with a door in the long wall opening into the yard. Examination of other towns and villages in the Gulf with contemporary



standing buildings confirms that this was the standard form of house in the region (for published examples see Jumayl in northern Qatar, and Jazirat Al-Hamra in Ras Al-Khaimah, UAE).<sup>28</sup> The simplest versions consisted of only one or two single storey structures, used for sleeping and storage; the roof was also used for sleeping in hot weather. A screening wall usually stood just inside the entrance to prevent visitors seeing into the family area. This could be described as a simple “Gulf vernacular”, which co-existing with larger and more elaborate high-status buildings.

Higher status houses had structures down three or all four of the sides of the courtyard and often had buildings of more than one storey tall. These more elaborate houses were rare prior to the 1950s and restricted to the wealthier merchant and sheikhly classes.<sup>29</sup> For clarity in this publication we will restrict the term “courtyard house” only to those with enclosed courtyards bounded by structures along all four sides. It is important to note that most courtyard houses were not purpose-built in a final finished form but were modified over time, providing multiple options for expansion as extended families grew and their needs changed. The unified courtyard house has a long history in the Gulf, with examples dating back to the 19th century known from Muharraq,<sup>30</sup> and from excavations at 18th century Zubarah,<sup>31</sup> not to mention a much longer regional history stretching back at least as far as the Bronze Age.<sup>32</sup>

Courtyard houses created a shaded living area and preserved individual privacy in crowded urban conditions. The yard formed the heart of family life, a semi-private space where cooking and a range of other activities were undertaken. Less permanent palm frond *barasti* structures would have created shade in the courtyard, or been used as animal pens. The key features found in an idealized Qatari domestic compound

were the *majlis* (pl. *majālis*), colonnaded veranda (*liwan*), bathroom or toilet (*masbah*, *hamam*), a room set aside as a kitchen, and a well, sometimes in the courtyard or within a room. Other rooms arranged around the edge of the courtyard were mostly multi-functional, and living arrangements and room use were often modified seasonally.

However, historic aerial imagery of Doha indicates that not all houses had these features, for example relatively few had a colonnaded veranda and many lacked a formal *majlis* or kitchen. In the simplest houses almost all the elements listed above were absent. In such humble homes cooking took place in the courtyard and ablution took place either there, or in the building using water brought from elsewhere, or on the beach.

The *majlis* represented one of the most important spaces in the more wealthy traditional Qatari houses. This gendered formal reception area was used to entertain visitors, for conducting business and for leisure activities. The *majlis* was and is an important symbol of the householder's character and status, and still performs an important communicative role within Qatari society, as well as a means of mediation with outsiders.<sup>33</sup> When present, the *majlis* was normally a specific room located near the courtyard entrance, so it could be accessed by visitors without them having to enter the more private areas of the house. The *majlis* was often the only room with windows opening on to the street, and was the most decorated space in the house. Mangrove and palm used in the ceilings were often painted to create colourful geometric patterns (Fig. 7). Coloured glass was used in the windows of the *majlis* in wealthier residences and elite houses also incorporated window screens or carved

gypsum panels with symmetrical geometric designs. Less ornate houses utilised simpler decoration with recessed niches (*roshaneh*). Hard packed earth or gypsum floors were covered with the household's best rugs and cushions (*masanid*) and any other prized possessions. Another form of *majlis* is known as the *dikka* (pronounced *dacha* or *dicha* in local dialect) and consisted of an external raised earth platform, sometimes in an open public space, covered with mats and shaded by *barasti* walls or a tent.<sup>34</sup> The *dikka* could even take the form of a bench along the outside of a building. This second form of *majlis* was not recorded in Doha in our building survey, but it can still be seen in the abandoned and semi-abandoned villages outside Doha, and was known from the Old Palace of Sheikh Abdullah (now the heart of the National Museum).<sup>35</sup>

A colonnaded veranda (*liwan*) created a shaded area around the courtyard and acted as an important decorative element within the house. The vertical pillars of the colonnade were traditionally constructed of limestone blocks and mud mortar in a similar fashion to the load bearing walls of the house. Arches, although a common motif in Islamic architecture, were seldom used as structural elements in traditional Qatari domestic buildings. Instead a simpler trabeated construction was favoured, which utilised rectangular cross-beams and lintels to create colonnades. Brackets with cut-out decoration were frequently inserted in the right-angles between the columns and the lintel in order to give the impression of an arch, and to introduce a decorative element.<sup>36</sup> With the introduction of more versatile materials such as cement in the mid 20th century, the popularity of arches increased, particularly in high status houses.

Apart from wealthy households, where white gypsum or lime plaster was used, external walls were covered in a brown mud render and were generally undecorated, except sometimes for rectangular recessed niches that broke up the severity of the façade and reduced the weight of the wall. Ethnographic accounts indicate that the brown render was mud gathered from nearby marshy areas. Elite buildings often incorporated saw tooth decoration into crenelations on top of the building (stepped merlons), with similar saw tooth designs often impressed into wall plaster around door-frames or the top of internal walls. Although house exteriors were sparsely decorated the size of the house and the presence of a second storey in the wealthiest of houses would have clearly demonstrated the status of the household. The windows of the *majlis*, and the often ornately carved wooden door to the courtyard, would have directed any visitor unfamiliar with the house to the appropriate way to approach the house.<sup>37</sup>

## RECORDING DOHA'S VERNACULAR ARCHITECTURE

There are few historical references to the vernacular architecture of the Gulf, and Qatar is particularly poorly represented. Early descriptions by western visitors to Bida' and Doha are brief and mention little more than the city's defences. The earliest photographs of Doha were taken in 1904 by the German traveller Hermann Burchardt.<sup>38</sup> The first known aerial photographs of Doha were taken in 1934 and 1937 by the RAF, with clearer images taken by Hunting Aerosurveys Ltd. in 1947, the first detailed map being produced in 1952. Mid 20th century aerial photographs consist of both vertical and oblique views of the city and show a settlement that consists of tightly packed courtyard houses, mostly only a single storey high, separated by narrow alleyways. Digitising these images has allowed analysis of the development of

the urban form of the city.<sup>39</sup> These documentary sources, along with detailed examination of standing buildings allow us to tell the life history of some of the surviving traditional structures in the city.

The historic building recording undertaken by the Origins of Doha Project focused on districts of the city in which historic structures were at risk of demolition.<sup>40</sup> Since access to the majority of the buildings included in the survey areas was limited the recording methodology aimed primarily to gather information on the visible, exterior walls and street frontages. Recording strategies followed guidelines set out by English Heritage<sup>41</sup>. An initial assessment was followed by more detailed building recording on several buildings.

Three broad chronological categories of building techniques were identified; traditional, transitional and modern. Traditional building methods are discussed in more detail below, and often consist of stone and mud packed walls and flat roofs built of mangrove *danshal* poles, reed mats and mud. Transitional building methods appear during the 1950s and typically entail the use of shell tempered concrete blocks and the introduction of square machine-cut timbers. These concrete blocks were probably produced locally and were made with a type of shelly sand very rich in small gastropods. This material is readily available along the coast of Qatar and it is possible that the air pockets created by the shell content gave the blocks good insulating properties. More recent modern construction is typically associated with the introduction of concrete blocks which lack shell content, reinforced poured concrete, plywood, corrugated iron and asbestos, alongside universal use of air conditioning units. It is important to note that changes in construction techniques are not directly

linked to changes in architectural style: modern materials were initially used to reproduce traditional architectural styles.

### TRADITIONAL CONSTRUCTION METHODS

Vernacular architecture is generally functional in nature, often constructed of locally available or inexpensive materials and not architect-designed, based instead on traditional design and construction methods known from previous generations. When a house-building project was undertaken in the Gulf region a master mason (*al banna*) might be appointed, but no detailed drawings or construction drawings would be made. Work might be undertaken by the family, local community or by independent workmen hired for a specific job. <sup>42</sup>

Traditional houses utilised mostly local building materials and often reused more valuable materials, such as wooden beams, windows, doorframes and doors from earlier buildings. In Doha, the basic building material used to construct the walls of traditional buildings was a hard, locally sourced limestone. This material was quarried around the outskirts of town in order to keep pace with the increased demand for building materials as the city expanded (the shallow quarry pits can clearly be seen in a ring around town on the 1930s-1950s aerial photographs). Beach rock (*hasa bahri* and *faroush*) was commonly used in northern Qatar, but seldom seen in the older buildings of Doha, presumably as it is less common in the Doha area. Unbaked mudbrick made from a mixture of mud and straw and known as *libn* was used in traditional Qatari architecture, but examples have not been recorded in Doha. Walls were generally between 0.40m and 0.60m thick and constructed of two parallel rows of larger facing stones and a packed core of mud, gravel and smaller stones. Walls

were covered with a layer of locally gathered clay-rich mud or gypsum based render, which was significantly more expensive and therefore less common. Wooden water spouts carried run-off from the roof away from the building (Fig. 5). This method of construction requires constant maintenance as external renders must be replaced periodically, particularly in case of mud-based renders.

Several types of plaster (*juss*) were made from crushed up beach rock and shell, baked lime, or gypsum. When used as wall render, masons usually applied three layers of plaster; the first consisted of mud used to even out the wall, the second contained gypsum and created a smooth finish, the third created a fine decorative finish and contained lime or gypsum. These layers were visible in the wall plaster at the Radwani House (see below) and the analysis of these plaster samples identified two main types of plaster. A hydraulic lime plaster with limestone aggregate was used as a coarse wall render, for the construction of floors, and in the construction of water-bearing features such as baths and drains. A gypsum and lime plaster without aggregate was used mainly as a plaster for internal walls, the fine nature of this material providing a smooth decorative finish.<sup>43</sup>

The lintels of the colonnaded veranda (*liwan*) as well as the lintels of doors and windows were built by binding mangrove poles with jute rope, and securing them across the top of the pillars to create a horizontal beam. The rope binding prevented the mangrove from splitting and created a surface onto which a decorative render could be applied. The upper corners of the colonnade were sometimes highly decorated with geometric designs.

Traditional Qatari roofs were flat and built with rafters of mangrove beams (*danshal*) laid directly on top of the walls. The *danshal* beams were imported from East Africa and were a valuable commodity that were seldom cut to length: the beams commonly protruded beyond the exterior walls on either side, establishing a design motif which persisted even with the adoption of modern materials such as concrete and steel. Usable roofing beams were invariably taken for re-use from structures which were abandoned or intended for rebuilding, a practice noted in the mid 19th century.<sup>44</sup> The length of the *danshal* beams dictated the dimensions of the rooms of the house; usually 2.5-3 metres. The beams were overlaid with a layer of split bamboo from India, woven reed from the banks of the Euphrates, and a palm mat (*manghrour*). Finally, the roof was made watertight with the addition of several layers of well tamped down earth (Fig. 6 and Fig.7).

#### CASE STUDY: RADWANI HOUSE

The Radwani House is located in the heritage quarter of a large modern redevelopment of the Msheireb area of Doha. The Origins of Doha Project conducted archaeological excavations within the house, as well as recording aspects of the standing architecture of the building.<sup>45</sup> Archaeological excavation and historical records suggest the house was first constructed sometime between the early 1920s and the mid 1930s and reached its final form around 1935. The underlying archaeology indicates that the Jasra neighbourhood of Doha (formerly Little Doha) expanded into the area of the Radwani House in the early 20th century. We speculate that this was around the time that the ruler, Sheikh Abdullah bin Jasim, moved his palace from Hitmi (in the east of Doha, now the site of the National Museum) to the site of the Turkish Fort, which originally lay between Bida' and Doha, in 1923. Aerial images



from the 1940s and 1950s give us a good understanding of the form of the house in the 1940s and 1950s (Fig. 8), but this was not the first building on the site (see below).

Originally the home of a Qatari merchant with origins on the Persian coast, the house was occupied by foreign workers in the later 20th century and underwent a number of ad-hoc alterations. As part of the redevelopment of the Msheireb area the buildings that surrounded the Radwani House were demolished between 2006 - 2009. The Radwani House was extensively reconstructed in 2007, with much of the original structure demolished and completely rebuilt using a mixture of modern and traditional techniques. The building underwent further extensive alterations in 2012 when it was turned into a museum of daily life, which incorporates information and artefacts from The Origins of Doha project's excavation. The recent reconstruction removed many of the alterations that had been made to the house, potentially changing significant aspects of the original layout. Despite these alterations we consider the reconstructed building to have value as an idealized version of a Qatari courtyard house, while the construction sequence revealed by our archaeological work indicates how earlier buildings were first combined and then had their wall foundations used to create the final unified building. The archaeological phasing indicates three main early-to-mid 20th century construction phases:

- Originally at least two adjacent buildings existed in the southern part of the site, parts of which were later incorporated into the Radwani House, separated by a division wall which implies that these were separate properties; there may in reality have been three or more early buildings within the footprint of the

later courtyard house, but this was impossible to ascertain given the limited scope for excavation.

- The two southern buildings were then joined into a single composite property of unknown overall plan.
- The composite property was then demolished, or partly demolished, and a unified courtyard house was built, the Radwani House, which is said to have been built or purchased by Mr Radwani in 1935.<sup>46</sup>

Large in comparison with other contemporary houses in Doha, the Radwani House represented a typical high status traditional Qatari family dwelling. The house was sub-rectangular in plan and was arranged around a central courtyard. The Radwani House was originally built in a traditional manner, using unfaced limestone blocks, mud mortar and plaster render. The external façade of the house was largely undecorated, with recessed panels running along the first floor roof screen. The only external windows were located in two rooms in the northeast corner of the building and in the first floor room below; the presence of external windows and the decoration in these rooms suggests that all three were likely to have been *majālis*. Access to the building would have originally been from a narrow street, through a decorative wooden door. A covered entrance hall opened onto a smaller *majlis* to the west and a larger *majlis* to the east. The likely existence of more than one *majlis* implies that more than one branch of the family shared the house. A screening wall blocks the main courtyard from view. Originally a staircase led directly from the entrance hall to the first floor, allowing visitors to access the *majlis* on the first floor without entering the main courtyard.

Today a series of twelve rooms are ranged around a central courtyard and flanked by a decorated raised colonnaded veranda (Fig. 9). Although entirely rebuilt, the decorative motifs seen today are very similar to the original designs. The north-eastern *majlis* was the most decorative of the rooms; decorative gypsum panels that currently adorn the room are modern additions, but may have replaced similar older examples. The other rooms in the Radwani house are decorated with niches, moulded plaster around the tops of the walls and ornate ceilings (Fig. 7). The niches vary in shape: some rooms have plain rectangular niches, others have rounded or more decorative tops. Geometric moulded plaster patterns adorn the tops of the walls and have the appearance of inverted crenellations. The roof of the Radwani House would have probably been used as a sleeping area in the hot summer months. A screen around the edge of the roof ensures this space remains private, and was designed to allow air to circulate and cool the house. Today the upper floor has a single room built on it at the north-eastern side, but aerial photos of the house in the 1950s show at least three other small structures on the roof prior to reconstruction (Fig. 8, Fig. 10). These were toilets, which opened directly onto the street below, according to the custom of the time.<sup>47</sup> The presence of three of them provides further evidence for the sharing of the house by at least three sections of the family. From this we estimate that 15-20 people may have occupied the Radwani House. This would not have been considered particularly crowded at the time: according to one of Nagy's informants, six related Qatari families occupied a house in Al-Asmakh up to the early 1980s, comprising 30-40 people.<sup>48</sup> From this we draw a simple conclusion: multi-occupancy of Doha's houses is not a recent phenomenon confined to the experience of migrant workers.

#### CASE STUDY: GYPSUM HOUSE

The building known today as the Gypsum House lacks the more elaborate features of the Radwani House, and represents the home of a relatively humble Doha family, albeit one in the first flush of oil wealth. Aerial photographs show that it was constructed between 1952 and 1956 in the corner of a large agricultural plot (Fig. 11).

<sup>49</sup> The construction of the house occurred when Doha was rapidly expanding as oil wealth flowed into the country. As the neighbourhood grew around the agricultural area and house, the original layout was soon altered and the north-eastern exterior wall truncated. The house underwent many later modifications and gets its current name from a late usage (i.e. late 20th or early 21<sup>st</sup> century), when gypsum mouldings were manufactured in the house and stuck to many of its walls. The building is currently abandoned, and although there is some interest in preserving the structure it is not clear what it could be used for.

The external facade of the building is plain, with little decoration and no windows.

The building comprises a large rectangular central courtyard with rooms arranged along the eastern and western sides. To the north of the main courtyard are two smaller courtyards with a rectangular building between them (Fig 12. and Fig.13).

The earliest phase of the building is built of stone and packed earth (or degraded mud mortar), and rendered in coarse gypsum plaster. Buildings are single storey and covered with a flat roof constructed in the traditional fashion with *danshal* beams, palm and reeds, supporting a packed layer of mud (Fig. 14). Many of the roof timbers are stained black with bitumen, presumably to repel water and deter insect infestation. Door and window lintels are made of mangrove poles wrapped in rope and covered with render. This traditional construction is used for the original compound wall, the *majlis*, the western rooms, the colonnade, and the northern room.

At the western side of the main courtyard is a colonnade, along which are ranged several rooms forming the house's main living, storage and activity areas. Originally the colonnade extended further to the north (see below). A stairway on the western side of the courtyard accesses the roof. Evidence of a low screening wall around part of the roof indicates that this served as a work or living space. The main courtyard was protected from view from the street by a screening wall that created a blind entrance to the house. A taller building on the eastern side of the courtyard is the *majlis* that visitors could access directly from the main gate without having to enter the courtyard; family members could enter through a second door directly from the courtyard itself. The internal decoration of the *majlis* consisted of symmetrical façades, with low barred windows either side of the doorway, rectangular air vents along the top of the walls and recessed niches.

The Gypsum House was extensively modified throughout its later occupation, with the unidentified Qatari family who originally occupied the property being replaced by migrant workers. Later additions to the building included the addition of a large rectangular room (Room 13) to the south of the main courtyard, constructed of shell-tempered concrete blocks and covered with a pitched roof built of machine-cut soft wood timbers. This replaced an adjoining complex (or southern extension of the original house complex) which had a large well and buildings, visible in the 1950s aerials.

To the north of the *majlis*, and abutting the northern wall of the building, two modern toilets were built of concrete blocks and rendered with a hard grey concrete mortar

(Fig. 16). The northern section of the colonnade was blocked in using modern concrete blocks to create an extra room (Room 6), which was covered with corrugated asbestos, supported on a concrete cross beam and round *danshal* beams reused from the original ceiling of the colonnade (Fig. 15). Below the traditional ceiling of the *majlis* fabric was suspended, creating a false ceiling. Similar plywood ceilings elsewhere were presumably to keep insects and water out as the traditional roofs started to degrade. Original large low windows in the *majlis* were blocked in, sometimes leaving space to insert an air-conditioning unit. Elsewhere rectangular holes were cut through walls to allow air-conditioning to be added (Fig. 17).

The northwest yard was used for the manufacture and sale of gypsum plaster mouldings during its final occupation. Evidence of this includes waste materials on the floors, and finished finely moulded architrave segments fastened to the walls, presumably as a display intended for potential customers (Fig. 18). A temporary lean-to roof covers the yard, providing shade. The northeast yard contains further evidence for the manufacture of gypsum plaster in the form of multiple layers of daubed waste plaster on the walls, and a basin, which may have been used for mixing gypsum.

#### CASE STUDY: HOUSE GH61, GHANEM AL QADEEM

GH61 is a small traditional house that, on the basis of aerial photographs, was constructed sometime after 1959. In the 1950s the Old Al-Ghanem area was developed as Doha increased in size, and by 1956 a compound had been established on the site that was about twice the size of the current house. Between 1959 and the present day the larger compound was sub-divided into two houses, the southern part forming the house in question. We speculate that this took place relatively soon after

1959, when the house was still occupied by a local family, as its features conform precisely to the core architectural requirements of an ideal traditional home: a *majlis* just inside the entrance, behind a screening wall protecting the view of the family area, which consisted of a yard, and a colonnade (*liwan*) in front of a simple box-like building, in this case divided into two rooms.<sup>50</sup>

The building is a modest, rectangular property with a yard (Fig. 19). The external facade of the house is plain, excepting a window into the *majlis*, another large, low rectangular window or door in the middle of the façade that has been partially blocked to allow the insertion of an air-conditioning unit, a small blocked air vent above this, and a further air-conditioner aperture (Fig. 20). A short, narrow, undecorated entranceway faces a screening wall, shielding the courtyard from the street. The *majlis* is now accessed directly from the entrance corridor. Attached to the *majlis* are a washroom (*hamam*) and toilet which together with the *majlis* form the only original stone-built components of the building. The roof of these rooms consists of *danshal* beams, bamboo, matting and packed mud. On either side of the door to the washroom are low basins, while a third similar basin, possibly a later addition, was located on the southern side of the courtyard.

At the western side of the courtyard three rooms open onto a colonnade. The walls are built of shell tempered concrete blocks and the pillars of the colonnade are concrete. The traditional flat roof utilises roof square-cut softwood beams and this part of the building, although replicating more traditional styles, utilises new building material and dates to the late 1950s or early 1960s (Fig. 21).

A modern wooden lean-to has been built over part of the entranceway, and several tables or workbenches have also been added. A second *hamam* in the southeast corner is built of modern concrete blocks and is a much later addition to the house. This probably reflects the overcrowded nature of the house over the last few decades, when it would have been inhabited by a large number of migrant workers. A relatively large room situated along the northern side of the compound is constructed entirely of modern materials, including concrete blocks and corrugated aluminium roofing. This is one of the more recent additions to the property, and was probably built in the 1990s or later.

#### CASE STUDY: HOUSE NA01, NAJADA

Building plot NA01 is sub-rectangular in plan and consists of four separate small domestic units (Fig. 22). The area was already built up by 1934, but its buildings were replaced or substantially remodelled between 1956 and 1959, by which time NA01 had largely reached its current form. Between 1959 and the present day the house to the east was partially demolished, and several of its western rooms were incorporated into the north-eastern part of NA01<sup>51</sup>.

The four domestic units that make up NA01 appear to represent separate family units; all are private from one another and accessed only from the street. Apart from the acquisition of the extra rooms in the north-eastern compound, we consider these four units to indicate the structures and divisions of space in 1959. The units are compact in size, and vary in shape, but measure on average only about 10m across. Each contains a small open yard area, and on average have four small rooms. There is no decoration visible in the houses, and there are no niches in the walls. The houses were



squeezed in to make use of limited space, and as such the symmetry characteristic of many traditional houses is not evident; courtyards are elongated and right-angled in order to fit the surrounding houses in.

NA01 is one storey high and built of shell tempered concrete blocks bonded by a hard concrete mortar. The walls are built on low foundation footings of un-faced limestone, probably representing the demolished walls of earlier buildings and are rendered with a rough cement mortar. The external walls are undecorated. The doorframes are of low quality and constructed of softwood, and there are few external windows. Two large rectangular windows with metal bars on the southern side of the building would have overlooked the private alleyway. Two similar windows that opened onto the main thoroughfare to the west have been blocked and crudely plastered over. The tops of windows and doorframes are supported with rope wrapped mangrove poles in the traditional manner. The buildings are roofed in a traditional style with woven matting supporting a packed mud roof. Many of the rooms are roofed using traditional mangrove *danshal* beams, perhaps salvaged from the earlier buildings on the site. However, several rooms utilised square-cut softwood beams instead.

The building has undergone a number of alterations. A rectangular hole at the top of a blocked window in the western wall would have accommodated an air-conditioning unit. One of the external windows on the southern side of the building is partially blocked for a similar reason. The northeast house was extended into part of the adjoining building, and here modern concrete blocks were used to block doorways and sub-divide spaces.

## DISCUSSION

A range of vernacular domestic architecture was recorded in this survey, and many buildings share common features. The yard formed the centre of the house in both unified courtyard houses and the less symmetrical compound houses, from which most of the rooms opened. The *majlis* formed a core component, with the greatest architectural elaboration and decoration usually reserved for this part of the home. Shaded verandas (*liwan*) were common features in homes of all sizes by the mid 1950s, but were not universal prior to this. Entrances were generally separated from the rest of the house by a screening wall. Access to the courtyard and inner rooms of houses from the street or the *majlis* was restricted, and the *majlis* was the only room with external windows. Thick walls provided insulation, while colonnaded verandas created shade and air vents of various forms created and channelled breeze through buildings in order to cool the inside of the structure. Adaptations for modern cooling solutions such as electrical air-conditioning units represent by far the most common modifications to traditional houses.

In a detailed study of the historic architecture of Muharraq, John Yarwood identifies four chronological eras of construction defined by building styles. Chronologically the buildings recorded in Doha would all fall into his latest period of architecture (1930-1940).<sup>52</sup> The Radwani House seen in the 1940s-1950s aerials and later photos is thought to have reached its final form around 1935, and Jaidah and Bourenane illustrate a number of houses in Doha similar to the Radwani House that are said to date from this period.<sup>53</sup> The fact that relatively elaborate houses were being built in some parts of Doha after the collapse of pearling and prior to oil exports suggests that some of inhabitants of Doha were still relatively well off even in the later 1920s and

1930s. In the case of the area of Jasra where the Radwani House was built, we know that a number of merchant families and their dependants immigrated to Qatar from the Persian shore between the end of the First World War and 1933, and it is also known that Jasra was particularly associated with Persian and *Hawala* families (Arabs of the Persian coastal region). We therefore consider this wave of immigration from Persia to have triggered the extension of Jasra into this area.<sup>54</sup> We speculate that the involvement of these merchant families in wider patterns of exchange in the Gulf buffered them against the worst impact of the collapse of the pearl fishery, and we note that merchant communities in Bahrain were likewise engaged in construction activities in the late 1920s and 1930s.<sup>55</sup>

During the early oil boom of the 1950s Doha underwent an explosive phase of growth, but initially traditional house construction methods and materials were still used, and it was not until the mid to late 1950s that houses begin to incorporate new materials such as shell tempered concrete blocks (for example at NA01, and in the modifications to the Gypsum House and GH61). Despite this slight lag in the introduction of new materials, from very early on in the oil era we see the effects of increased wealth. For example, the Gypsum House was likely to have been the dwelling of a fairly humble Qatari family, responsible for tending the agricultural plot on behalf of the elite class. It is notable that this building nonetheless had a *majlis* and *liwan*, features which were lacking in the simple homes of the older parts of Doha. The same can be said of GH61, where a small and simple home was equipped with both a *majlis* and *liwan*. We attribute this to the greater availability of wealth and employment during the 1950s as oil money began to make its impact. Likewise we draw attention to the proliferation of true courtyard houses that appeared in Najada,

Al-Asmakh and Al-Ghanim during the mid 1950s. These buildings, modelled on the kind of unified courtyard house represented by the Radwani House, are a demonstration of the new buying power of the Qatari public: architectural forms and elements which had previously been restricted to the merchants, tribal elites and sheikhs could now be afforded by a wider sector of the population.

NA01 represents something of an anomaly within this framework. Its layout provides four separate, small, utilitarian homes, lacking decoration and without any *liwan*, though there are sufficient rooms to allow a *majlis* to be present in all of them, and two have rooms opening directly to the street (i.e. are very likely to be *majālis*). These small units may represent the continuing existence of a relatively poor sector of Qatari society, and the simultaneous construction of these separate homes, connected architecturally but not in terms of access, may indicate the provision of housing to four households by a wealthier patron or employer. This is highly speculative, however, and without historical data relating directly to the property we cannot theorize further on its original occupancy.

Government initiatives to establish social housing in the 1960s, along the introduction of modern building techniques and materials such as poured concrete, eventually resulted in the introduction of more western style compound houses for Qatari nationals, and the vacation of the 1950s builds by Qatari families in the 1970s and 1980s. The traditional houses in the centre of the city became home to the mainly male migrant workforce the expanding economy demanded. Although multi-occupancy had also been a characteristic of the earlier Qatari occupation (see for example Nagy's reference to up to 40 relatives living in one house in Al-Asmakh)

these new inhabitants lacked family relationships and enacted a range of alterations to the buildings, transforming them to suit their own needs. Courtyards were often covered over or sub-divided in order to create smaller dwellings, second stories constructed of modern concrete were added, doors were blocked in or new buildings were added to courtyards as previous divisions of space were abandoned, and air conditioning units were added with openings cut through walls.<sup>56</sup>

The traditional built heritage represented by these houses is often identified with the past and thought not to be relevant, or associated with modern poverty and slum conditions today.<sup>57</sup> A desire for Doha to modernise has resulted in large-scale urban regeneration with 'mega- projects'<sup>58</sup> such as the Msheireb redevelopment resulting in the demolition of substantial areas of the city. The architecture of the Msheireb development deliberately breaks from traditional architecture, in an attempt to establish a 'new architectural language' for both Qatar and the wider Gulf region.<sup>59</sup>

Where more traditional styles of architecture have been retained, such as in the Suq Waqif area of the city, older buildings are often completely rebuilt utilising a mixture of modern and traditional styles and not necessarily retaining the original floor plan. The aim of the Suq Waqif redevelopment was to remove alterations and additions considered inappropriate, such as neon signs and visible air conditioning units, from what had become a rundown area of the city.<sup>60</sup> The Suq today is a popular tourist attraction but represents an idealised architecture 'that never existed in this sleek form'.<sup>61</sup> The deliberate retelling of the past through the creation of heritage architecture creates many issues around the authenticity of historic reconstruction and its relationship to the continuity of the city's inhabitants and activities.<sup>62</sup> This blurring of the line between the traditional architecture of the city and its modern re-imagining

continues as the rebuilt Suq Waqif and the Radwani House provide inspiration for a modern reinterpretation of Qatari architecture, yet obscure the architectural legacy from which they spring.<sup>63</sup>

For this reason, and because the city's diminishing resources of built heritage are threatened by today's unprecedented rate of urban development, we consider the simple traditional and transitional houses of Doha to be worthy of study . These buildings provide tangible evidence for the change from wholly traditional domestic architecture within a context of limited economic resources, to a new architectural landscape involving modern materials and new architectural forms within a context of economic boom. As a last point, which will be developed further in a subsequent companion article, we note how these houses show adaptation to new populations and forms of occupancy as the demography of the old districts of Doha changed during the last third of the 20th century AD.

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## NOTES

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- <sup>1</sup> <https://originsofdoha.wordpress.com/>
- <sup>2</sup> Kahraman & Carter forthcoming.
- <sup>3</sup> Althani 2012; Othman 1984; Rahman 2005; Zahlan 1979.
- <sup>4</sup> Fuccaro 2009; Richter et al. 2011. See Fletcher & Carter *in press* for an analysis of Doha within the context of the “Arab and Islamic Town”.
- <sup>5</sup> Al-Kholaifi 2006; Jaidah & Bourennane 2009.
- <sup>6</sup> Yarwood 1988; 2006.
- <sup>7</sup> Kay and Zandi 1991; Hawker 2008. Ragette's (2003) overview of Arab domestic architecture, and Hawker's presentation of the traditional architecture of the Gulf, are notable among the few studies that include more humble dwellings alongside the higher status houses of the Gulf region.
- <sup>8</sup> Adam 2013; Alraouf 2010; Boussaa 2014a; Khalil & Shaaban 2012; Law & Underwood 2012; Rizzo 2013; Wiedmann & Salama 2013.
- <sup>9</sup> Exell & Rico 2013.
- <sup>10</sup> Deetz 1982.
- <sup>11</sup> Hicks & Horning 2006.
- <sup>12</sup> Lorimer 1908: 488-489.
- <sup>13</sup> Constable & Stiffe 1864: 105; Constable & Stiffe 1862.
- <sup>14</sup> Lorimer 1908: 487-489.
- <sup>15</sup> Carter & Eddisford forthcoming.
- <sup>16</sup> Fletcher & Carter *in press*.
- <sup>17</sup> Carter 2012
- <sup>18</sup> Al-Othman 1984.
- <sup>19</sup> Gardner 2011.
- <sup>20</sup> Nagy 1998.
- <sup>21</sup> Nagy 1997: 194-196.
- <sup>22</sup> Adam 2013; Makower 2013.
- <sup>23</sup> Nagy 1998.
- <sup>24</sup> Ragette 2003.
- <sup>25</sup> Duncan 1981; Rapoport 1969.
- <sup>26</sup> Al-Kholaifi 2006: 145.
- <sup>27</sup> Jaidah & Bourennane 2009: 20.
- <sup>28</sup> Hawker et al. 2014; Hawker 2006. The layout of the Jazirat Al-Hamra houses can still be seen clearly from the air using Google Earth, while initial perusal of 1950s maps indicates that many towns on the Arabian shore of the Gulf contained a majority of such simple dwellings (perhaps all except for those constructed mainly of palm fronds, such as Abu Dhabi). Further work is required to confirm if this pattern is repeated on the Persian shore.
- <sup>29</sup> The sheikhly elites and their relatives tended to have larger compounds, usually termed “palaces” which did not always have buildings or building wings all around the courtyard. The large courtyard enabled them to accommodate their camels, herds and cars when necessary.
- <sup>30</sup> Yarwood 1988.
- <sup>31</sup> Richter, T., Wordsworth, P., & Walmsley, A. (2011). Pearl fishers, townfolk, Bedouin, and shaykhs: economic and social relations in Islamic al-Zubārah. *Proceedings of the Seminar for Arabian Studies*, 41, 317–332.
- <sup>32</sup> One famous example is No. 3 Gay Street at Ur (ca. 1800 BC, but not the oldest known example in Mesopotamia by any means)(Woolley et al. 1976: 96-97, Pl. 22). Numerous courtyard houses of the 9th-10th c. AD are known from Siraf, on the Persian shore of the Gulf, e.g. the houses at “Site F” Whitehouse 1971.
- <sup>33</sup> Nagy 1998: 282, 284.
- <sup>34</sup> Nagy 1998.
- <sup>35</sup> Wright 1975.
- <sup>36</sup> These brackets are characteristic but under-researched. It has not been established what word was used locally to describe them, and the nature of their manufacture is uncertain. They are described as “stucco” in Wright 1975.
- <sup>37</sup> Nagy 1998.
- <sup>38</sup> Nippa *et al* 2006.
- <sup>39</sup> Fletcher & Carter forthcoming.
- <sup>40</sup> Eddisford & Roberts forthcoming.



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- <sup>41</sup> English Heritage 2006.
- <sup>42</sup> Yarwood 1988: 127.
- <sup>43</sup> Carter & Eddisford 2013.
- <sup>44</sup> An 1851 account by Lt Frederick Erskine Manners refers to men being left at the town of Fuwairit specifically in order to recover the roofing beams, presumably for re-use in Doha, to which the inhabitants had recently relocated. See Manners 1951.
- <sup>45</sup> Carter & Eddisford 2013.
- <sup>46</sup> Qatar Museum's registry of historic buildings provides the date of 1935 for the "Beyt Rezuani", and also refers to it as "also called the house of Mohammed Redda Larri".
- <sup>47</sup> Al-Kholaifi 2006 illustrates one of these (p. 158, fig. 67). Comparison of his photograph with the 1952 aerial indicates that it is actually the one on the corner of the Radwani House. Other examples of toilets overhanging the street survive today in the Al Asmakh district, albeit now plumbed into pipes leading down to sewers or sumps buried in the street. See Kahraman & Carter forthcoming.
- <sup>48</sup> Nagy 1997: 196.
- <sup>49</sup> Aerial images show that the agricultural area had been there at least since 1934. It was the only agricultural plot on that side of town, and Lorimer (1908) refers to a garden kept by the Turkish garrison. We speculate that this was it. Following the departure of the Turks we speculate that it was kept for the Al Thani family, or possibly the oil company during and after the 1930s, which was said to have had access to a garden area.
- <sup>50</sup> House GH61 was recorded in 2014 and at this time it was abandoned and was being used to dump rubbish, it has since been demolished.
- <sup>51</sup> Plot NA01 had been abandoned when recorded in 2014, it was in a very poor state of disrepair and was being used as a rubbish dump.
- <sup>52</sup> Yarwood 1988, p. 120.
- <sup>53</sup> Jaidah & Bourenane 2009.
- <sup>54</sup> According to Wright 1975, Sheikh Abdullah moved in 1924. We learn of up to five thousand Persians arriving in Doha after the First World War by comparing the population breakdown detailed in a report of 1933 (Government of India Press 1933) with Lorimer's population figures of 1908. Most of the Arabian ports saw an influx of Hawala and Persian families and merchants after the First World War, as the Persian government tightened control of its Gulf coast and began to exact tax and customs duties.
- <sup>55</sup> Carter & Naranjo-Santana 2011.
- <sup>56</sup> Kahraman & Carter forthcoming.
- <sup>57</sup> Abu-Ghazzeah 1997.
- <sup>58</sup> Rizzo 2013.
- <sup>59</sup> Makower 2013.
- <sup>60</sup> Boussaa 2014b.
- <sup>61</sup> Adham 2008, p. 240.
- <sup>62</sup> Alraouf 2012.
- <sup>63</sup> Makower 2013.