

ARCHITECTURAL FAMILY TIES ZANZIBAR AND OMAN IN THE 19TH CENTURY

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From the times predating Seyyid Said's arrival around 1830 on Zanzibar little architectural remains survive on the island. The trowel of the archaeologist has only recently started to unearth Zanzibar's history. Of antique buildings little has remained because most of traditional Zanzibari architecture was erected in perishable material. The old capital of Zanzibar, Unguja Kuu, only knew a single stone building, the mosque, and the same applies to the island all over. The mosque at Kizimkazi, ruins of a group of merchants' houses on Tumbatu and the Mnara Mosque in Stone Town are the rare examples of stone buildings from before 1800. So is the old fort, which was extended by the Omani around a small Portuguese sixteenth century establishment.

The architectural history of Oman shows a remarkable similarity to that of Zanzibar. Building technology and expression in form show a parallel development in a consistent division in 'light' architecture in perishable organic material, and a 'heavy' architecture in coral stone, lime and earth. Light architecture was for the individual dwelling and the workplace, heavy architecture for buildings meant to withstand aggression and time such as forts and mosques. Materials and technology applied in Oman and Zanzibar were similar, and mutually exchanged. Proof thereof is paramount, and obvious from the name giving of building materials and architectural components. A mangrove pole is a boriti, a living room a sablah or *seble* and a water conduit a *falaj* or a *fereji*. ¹

Seyyid Said belonged to the Ibadhi sect within the Islam. The Ibadhi's banned external pomp in their architecture and their buildings were plain and sober by appearance. The modernists have been charmed by the simplicity of Ibadhi architecture. Le Corbusier admitted to be strongly inspired by the Ibadhi villages in the Algerian



fig. 61 The old fort in Zanzibar Stone Town

1 For foreign and scientific names: see glossary

fig. 60

fig. 62 Mtoni mosque see also figs. 112-116



fig. 63 Fundi on makuti roof



fig. 64 Swahili house in Bagamoyo under construction (1985) see also figs. 4 and 9

- Pearce 1920, the title of his book speaks for itself: 'Zanzibar, the Island Metropolis of Eastern Africa', Salme 1993: 230, 241 on the comparison between Oman and Zanzibar
- 3 Guillain 1856: 33 remarked that the pastries are "(...) massives et compactes comme les murailles de M'toni")



Mz'ab, and the cubic simplicity and proportions of the Mtoni Mosque are of undeniable beauty.

Oman was above all not a rich country. Ibadhi simplicity fitted well the hard climate and rugged landscape. The move to Zanzibar was a chance for Seyyid Said and his family to escape from Omani hardship and build up wealth and power in the new 'island metropolis' ². Even so, Seyyid Said's building projects would remain faithful to Ibadhi purism. Mtoni Palace and its sister palace Beit el Sahel were plain buildings at a first glance, and even the interior was thought sober by contemporary visitors. Captain Guillain, who was invited to dine with Seyyid Said at Mtoni, was surprised about the sobriety of the furnishing, cutlery, tableware and food. He thought 'the served pastries as massive and compact as the walls of Mtoni'³.

It was only after Seyyid Said's death, and in particular under his son Barghash's reign, that Ibadhi simplicity made room for an exuberant 'indo-saracenic' architecture that spread over the oriental part of the British empire during the last quarter of the nineteenth century.

From 'light' building nothing remains on the Mtoni premises. This is no surprise as light building was erected to serve short life cycles and subservient needs. In Oman there was another reason for the division in light and heavy building, which is to be sought in the great fluctuations in temperature. In the hot and humid summer period people would prefer to live in the well ventilated airy 'arish' houses with pitched roofs, built of date palm fronts, whereas in the dry winter season the flat roofed heavy

mud structures would accumulate heat to create a warm environment during the cold nights. We can perhaps see the juxtaposition of the heavy main palace building and the airy *benjile* at Mtoni as a reference to the traditional Omani division in architecture adapted to summer and winter climes. The *benjile*, a mysterious structure of which we have been unable to assess its origin, might have been parented to the tentroofed platforms on which Indian princes took their tea. If that the case, the roofing of the *benjile* could have been consisted out of the fine matting which was used as well for the sails of the traditional Zanzibari ship, the *mtepe*.

Zanzibar does not know large seasonal climatic differences, it is warm and humid throughout the year. Hence, the traditional Zanzibari, or Swahili architecture is of light building in so-called wattle-and-daub, with steep pitched roofs that keep the sun and rain out. Arish technology is in Zanzibar baristi and makuti technology, based on matted coconut leaves rather than the date palm leaves from Oman.

Makuti was and is used on Zanzibar for roofing, for filling in gables and for fencing and wind breaks. Guillain's engravings of Mtoni Palace show us roofing, service buildings and fences in this makuti technology.

Of 'heavy' building only the lime and coral structures have survived at Mtoni. There is no proof of mud building at Mtoni, although it might have been applied, either in bricks, the matofali or as infill in light weight wickerwork or timber framed structures. The fact that larger parts of the palace, in particular the northern wing, dilapidated and disappeared in a short time span might indicate that these buildings were, perhaps partly, built out of mud. In the Omani palaces and forts it was common practice to combine stone and mud technology within one complex⁴. Another reason for the quick disappearance of these parts of the palace could have been the scavenging for coral stone for the erection of other buildings or the making of the oil storage facility.

As we have seen, stone technology was not widespread in Zanzibar until the nine-teenth century. The same applies to Oman. As in Zanzibar, coral was most common in Omani stone architecture. Coral was either quarried from fossilized rock formations or collected from living reefs. Coral stone technology is known since Hellenistic times⁵. Reef coral can be worked into fine ashlar and even carved for mouldings and other decorative elements. Reef coral is quite soft when harvested but becomes hard through exposure to air. It is therefore necessary to season reef coral work before it is exposed to wear and tear.

Finely carved coral stone work can be found on the East African coast, but generally predates the nineteenth century. It was in the Middle Ages, for instance in Kilwa and Lamu, that this technology reached its apogee. However, the finds of finely squared ceiling tiles at the Mtoni bath complex, confirm that this technology was not extinct during Seyyid Said's times.

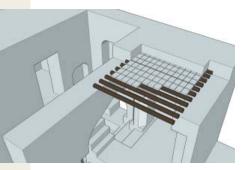


fig. 65 Ceiling construction scheme at Mtoni



fig. 66 Ceiling reconstruction at Mtoni baths

- 4 Damluji 1998: 14
- 5 RMIT2008: 100-101

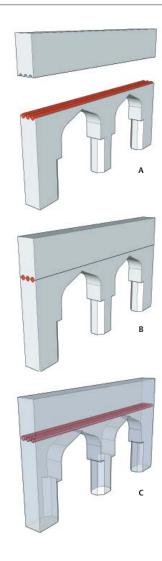


fig. 67 A-B-C arch structure found in Mtoni Palace

6 Archnet 2008: 3

7 RMIT 2008: 95

8 Damluji 1998: 15-16

Fossilized coral rock cannot be worked like reef coral to smooth finish and is only good for filling work and rough masonry. Fossilized coral was used at Mtoni to erect the load bearing structures; walls, columns and arches. The walls were built in successive bands that remind of pisé technology, a building technique not unlike modern concrete building in which a mixture of mud and small stones is poured in layers between wooden planks that act as temporary moulds. Layered walling techniques are also known from Oman⁶, where between layers wooden tie beams were sometimes inserted.

The walls of Mtoni Palace are of considerable thickness. The ground floor walls have an average thickness of no less than 70 centimeters. The thickness of the walls was based on the Omani tradition of building 'heavy' constructions for the winter climate and serving defensive purposes. Typical in these walls is the use of tall niches or 'rawzanah'. The total thickness of the wall ensures high stability for horizontal loads, while through the niches a substantial saving in material is achieved. Another effect is that the overall internal surface of the wall is considerably raised compared to a flat wall. This will increase the heat radiation desired in the Omani winter.

Cavities left behind by wooden tie beams, probably mangrove poles, are found in the heavy masonry as lintels over door openings, and unexpectedly, over the arches around the main courtyard at Mtoni Palace. It is surprising to find these poles inserted over arches because arches are structural elements themselves supposed to support heavy loads over large wall openings. These finds⁷ do confirm the assumption that the arches were not built up with voussoirs and a keystone but were cast over a formwork. This technique, again, is not uncommon in Oman, where arches were cast over a formwork of wedged palm fronts thus creating the typical Omani arch with the small point at the apex⁸. There are many examples in Islamic building tradition of decorative use of arches. This is contrary to the Roman building tradition, where arches always have a structural purpose to support construction above openings in walls.

The mortar used in the walls consists of red earth mixed with water, and the base plaster coat as well. At Mtoni Palace the technique of lime based plaster, or *saruji*, applied as final coat reached a high standard. Finely cut edges and smooth surfaces that do sometimes barely exceed a few millimeters show us the high level craftsmanship of Seyyid Said's builders, the fundis.

Quick lime was and is obtained in Zanzibar through firing of coral rock and seashells in open kilns. High quality lime putty requires patience, the longer quick lime is left slaking in water, the stronger it becomes. The excellent state of preservation of plasterwork in Mtoni Palace, which has been exposed to high temperature, wind and rain

for decades and decades, stands proof of careful production and skilful application of the saruji technology.

Lime plaster and red earth mortars blend chemically well with the coral stone. These walls act as an entity that has uniform qualities in terms of reaction to mechanical forces, humidity and temperature. This does not apply to Portland cement render or mortar that has been used in renovations and alterations to Mtoni Palace in modern times. Cement does not marry well to earth, coral and lime and literally suffocates the walls if used as plaster. Cement plaster is therefore now slowly and carefully removed in the ongoing conservation works to the palace, to be replaced by traditional limeearth plaster finish.

The upper stories of Mtoni were constructed of coral rag set in earth-lime mortar like the ground floor walls. Yet it is probable that the first floor arcade around the central court was made of wood as was common in Seyyid Said's time. Beit Fransa for instance, the Muscat house of Ghaliyah bint Salim bin Sultan, a niece of Seyyid Said has beautifully worked timber arcades and balustrades around the court on first floor level.



fig. 68 Loggia at Salome's garden see also fig. 95

9 Damluji 1998: 162

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fig. 69 Staircase at Jabrin castle, Oman



fig. 70 Boriti floor construction at Beit el Sahel

10 RMIT 2008: 96-98, among other sources

11 Damluji 1998: 14

The two stone staircases in the main building of Mtoni Palace have partly survived, and traces can be discerned of the vaults that once covered them. This technology can be found in Oman. The surviving seventeenth century vaults in Jabrin palace were decorated with painted geometric patterns.

The floors and roofs were made of coral stone on timber joists. Like in Oman, the room widths depended on the availability of timber sizes. The mangrove or boriti poles used as single span joists would allow a width of not much more than three meters. For wider rooms heavy teak beams would be used as joists to increase the width to more than four meters, or as sleepers to create double span floors of up to six meter width. The use of boriti is known in Zanzibar and Oman, mangrove poles were imported in Oman from East Africa. Large teak beams used in Oman and Zanzibar were taken from India¹⁰, at later date indigenous hardwoods from Zanzibar's own forests or mainland forests were used.

The floor itself consisted of coral blocks resting on the beams, which were plastered on both sides to create a smooth and esthetic surface. The only remaining floor in situ, a fragment of roof floor over the cold baths' wing, does not consist of coral rag as usual but of the earlier mentioned finely squared coral ceiling tiles.

We do not know whether the ceilings were decorated with paint or carving as is usual in representative rooms in Oman.

The floor beams were inserted in the walls, but often a cornice was added to support the beams and to allow removal of beams at a later stage. On the exterior of the wall, a protruding dado, called a hijaz in Oman¹¹ would indicate the floor level and serve as water drip to protect the facades.

The roofs at Mtoni were flat, with the exception of the Persian baths. The domes over these baths might be the eldest surviving in Zanzibar, but dome technology was known in East Africa since the early Middle Ages. The domes of the mosques at Kilwa have survived many centuries and multiple wars.

Flat roofs were constructed as the floors, and fitted with a parapet, which was more often than not crenellated. The few historic images that we know show thatched saddle roofs over large tracts of the main building and decorative merlons on the parapets on the northern wing. The erection of pitched roofs over the flat roof slabs was no less than a necessity in Zanzibar. The heat accumulation through the exposure to the tropical sun and the leakages caused by the frequent and torrential rainstorms made the Omani type flat roofs unsuitable for Zanzibar. By the late nineteenth century practically all buildings in Stone Town would be covered with pitched roofs made of thatch and later tin sheets.





No traces remain of roof parapets at the surviving ruins at Mtoni. The only sign of flat roof structure are the copper water spouts at the central courtyard. Spouts were common in Oman, but they were wooden or ceramic, not copper as far as the ones found in Mtoni¹².

fig. 71 Hijaz mouldings on Stone Town facades

fig. 72 Mtoni Palace inner court showing parapets and rainwater spouts see also figs. 29 and 30

12 Damluji 1998: 15



fig. 73 Kilwa castle main door



fig. 74 Old photograph possibly showing front door of Mtoni Palace

fig. 75 Main door at Beit el Sahel

13 Burton 1872: I/86

14 Salme 1993: 157,308

The main entrance doors to the palace are unfortunately lost. No doubt these were double leaf doors of heavy timber, studded with bronze or copper knobs and carved jambs and lintel beam, like we can still admire in a number of Omani origin nineteenth century houses in Stone Town. The doors of Omani houses were the scarce elements where decoration was allowed¹³.

No proof has been found whether there were ground floor windows in the external walls in Saleh's times. It might have been that there were small openings for ventilation only, as is the case in many Omani forts.

During Seyyid Said's times the ground floors might have been fitted with windows, as contemporary images suggest. Certainly windows were present at the *majlis*, at the other wings it remains to be clarified. The secrecy required for female quarters and the treasury rooms mentioned by Ruete¹⁴ might have been ground for restrained use of windows on ground floor level as well.

The scant information on the facades of Mtoni left to us does not provide a clear image of the type of windows that were originally used by Saleh bin Haramil. On Zanzibar in general there is hardly a trace of early to mid-nineteenth century windows. In Oman, on the contrary, due to the drier climate and continuation of tradition, older windows are still to be found. Early nineteenth century windows were not glazed, as plate glass was at that time still rare, but fitted with shutters, grating and balustrades



of wood. A lot of care was given to the composition of the window. The windows were placed just above floor level and subdivided into five sections. The two lower sections were fitted with shutters and a protective balustrade. The two middle sections with a shutter and a decorative arch framing the view The single top section was meant for ventilation with a grating and a top hung shutter.

This type of window has, as stated above, not been found on Zanzibar, but its existence prior to the advent of glass casements can be guessed at. The windows that were used by Seyyid Said probably were of the type that is still widely used on Zanzibar. The windows are as a rule larger than the traditional Omani ones, but still subdivided into sections. The two lower sections would be fitted with wooden shutters and decorative wooden or forged iron banisters, the two top sections with casements and timber shutters. The shutters themselves at Mtoni seemed to have been plain, and not louvered as became standard at later times.

Windows were set in the rawzanah in the heavy walls. The windows were placed at the outside of the niches, flush with the external wall finish. Window shutters would open inwards and fit in the depth of the niches, without protruding into the room. The niches extended well over the windows, to end in pointed arches just under the ceiling. The higher sections of the niches were used for shelving, and sometimes in the top section a ventilation opening was inserted.

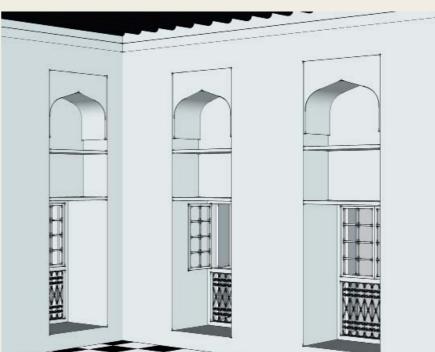




fig. 76 Traditional Omani window



fig. 77 Rawzanah at Mtoni



fig. 78 View through opened rawzanah at Mtoni

fig. 79 Reconstructed majlis at Mtoni



fig. 80 Interior of Beit el Sahel

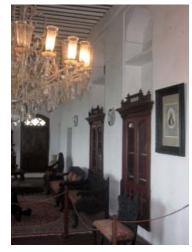


fig. 81 Majlis at Beit el Sahel

Not all niches in Mtoni Palace were fitted with windows, quite a few were blind and used for storage only. Perhaps, as can still be seen in Beit el Sahel, wooden cupboards and wardrobes were inserted in the niches instead of windows.

Contrary to the exterior, the interior of the *majlis* or sablah and other representative rooms was lavishly decorated. Mirrors, firearms, American Regulator Clocks, swords and paintings were hung on the walls between the niches and fine Chinese celadon, ceramic bowls from Maastricht and silverware were displayed on the shelves.

On the black and white checkered marble floors carpets and finely woven mats were laid, and the ceilings might have been decorated with paint. From the ceiling glass-chandeliers from Murano were hung. Of these interiors there is quite substantial documentation available through old photographs and engravings¹⁵.

East Africa, India and Arabia have been parented since antiquity and mutually influenced each others' architectural cultures. Zanzibar, in particular, was and is a meeting place of people and cultures from every corner of the world. The famous British urban planner Henry Lanchester remarked, whilst drafting Zanzibar's first masterplan in 1923, that

'(...) it is characteristic of Zanzibar to-day never to be bigoted about anything. She took amicably to the Persians of the Middle Ages; she was friendly with the Portuguese; she tolerated the Indian; she assimilated the Oman Arab; and she welcomed the English'. 16

From a remote past, foreign influences were welcomed and assimilated in a friendly way to blend into Zanzibar's unique cultural flavour. Mtoni Palace is a typical example of this blending of cultures. Although the remains are only a fraction of the original expanse of the palace, they remind us of the pleasant years that Seyyid Said and Sayyida Salme spent here in the nineteenth century cultural melting pot that was Zanzibar.



16 Lanchester 1923: 21



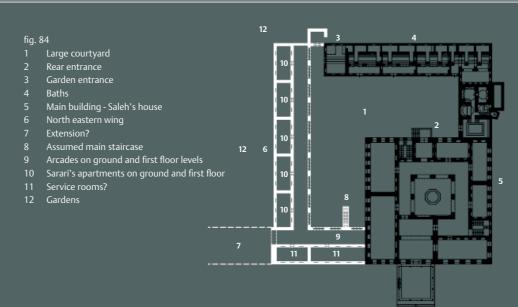


fig. 83 View from the east (1885-1890)

The house of Saleh bin Haramil was extended by Seyyid Said with a baths' complex, an L-shaped two-storied apartment block, and probably further wings to the northeast which have completely disappeared.

The large courtyard between the core and the extensions bristled with life and was a service courtyard in the first place where retainers, servants and animals crossed paths.

The northern wing housed the apartments of the sarari, the secondary wives and their offspring, like Sayyida Salme and her mother. Life took place in the rooms spread out onto the interconnecting arcades and galleries.



A single, spacious courtyard is allotted to the whole body of buildings that compose the palace, and in consequence of the variety of these structures, probably put up by degrees as necessity demanded, the general effect was repellent rather than attractive. Most perplexing to the uninitiated were the innumerable passages and corridors. Countless, too, were the apartments of the palace; their exact disposition has escaped my memory, though I have a very distinct recollection of the bathing arrangements at Bet il Mtoni. (Sayyida Salme/Strachey 1907: ebook)

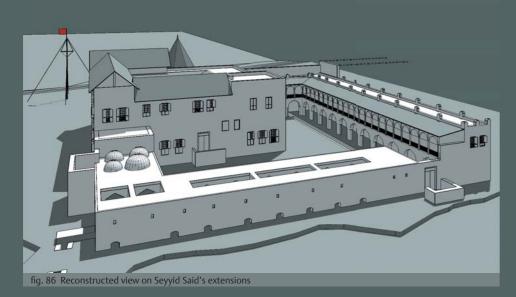


fig. 85 Aerial overview from the north

In a corner of the yard cattle were slaughtered, skinned, and cleaned in quantities, all for the sole use of the house, which, like every house in Zanzibar, must provide its own meat. In another corner sat Negroes having their heads shaved, while near them a lot of lazy water-carriers lay full length on the ground, paying not the slightest attention to the urgent calls for water, until unpleasantly reminded of their duty by a muscular eunuch. I have known these leisurely gentleman to start up, and to dash away like lightning with their jugs at the mere frown of their formidable taskmasters. Near by nurses sunned themselves and their little charges, whom they were regaling with fairy tales and stories. The kitchen, too, was in the open, and the smoke ascended freely to heaven as it might fancy, for chimneys do not exist. Strife and confusion were the rule among the host of culinary sprites, the head cooks dealing out boxes on the ears in liberal style to the guarrelsome or dilatory scullions of either sex. In the Bet il Sahel kitchen the animals were cooked whole, and I have seen a fish arrive carried by two sturdy blacks; small fish were not taken in excepting by the basketload, nor fowl but by the dozen. Flour, rice, and sugar

were reckoned wholesale by bags, while the butter, imported from the north, especially from the island of Socotra, came in jars of a hundredweight each. Only spices were measured by the pound. Still more astonishing was the quantity of fruit consumed. Every day thirty or forty, or even fifty men brought loads of fruit on their backs, apart from the consignments delivered by the little rowboats which supplied the plantations along the shore. I am probably making no extravagant estimate if I put Bet il Sahel's daily consumption of fruit as high as the capacity of a railway van; but some days, for instance, during the mango harvest, the demand would be still larger. The slaves intrusted with all this fruit were extremely careless; they would plump the heavy baskets from their heads violently to the ground, so that half the contents would be bruised or squashed. (Sayyida Salme/Strachey 1907: ebook)

66 MTONI PALACE SULTAN SAID'S EXTENSIONS 67



A peculiar feature of Bet il Mtoni were the multitudinous stairways, quite precipitous and with steps apparently calculated for Goliath. And even at that you went straight on, up and up, with never a landing and never a turn, so that there was scarcely any hope of reaching the top unless you hoisted yourself there by the primitive balustrade. The stairways were used so much that the balustrades had to be constantly repaired, and I remember how frightened everybody was in our wing, one morning, to find how both rails had broken down during the night, and to this very day I am surprised that no accident occurred on those dreadful inclines, with so many people going up and down, the round of the clock. (Sayyida Salme/Strachey 1907: ebook)

We had no special schoolroom. The lessons took place on an open veranda, to which pigeons, parrots, peacocks, and bobolinks enjoyed unrestricted access. This veranda overlooked a courtyard, so that we could amuse ourselves by watching the lively proceedings down below. Our academical furniture consisted of one enormous mat, and equal simplicity distinguished our apparatus for study: Koran with its stand, a small pot of ink (domestic manufacture), a bamboo pen, and a well-bleached camel's shoulder blade.(Sayyida Salme/Strachey 1907: ebook)

By seven o'clock in the morning, after partaking of some fruit, we were on the veranda, awaiting the mistress. Pending her arrival, we would have jumping and wrestling matches, and would clamber about the balustrade, doing our best to risk our lives. One of us would be stationed as sentinel at a suitable place, whence a fictitious cough warned us of the pedagogic approach. In a twinkling every pupil was down on the mat, looking the picture of innocence, and upon her actual appearance we all bounded to our feet, to pay the tyrant obsequious reverence. (Savvida Salme/Strachev 1907: ebook)



Under Azze bint Sef's pressure, there had reigned a kind of monastic life at Bet il Mtoni. (Sayyida Salme/Van Donzel 1993: 176)



The large bath' complex was a novelty that Seyyid Said brought to Zanzibar.

The row of cold Omani type baths, on top of the falaj, the water channel running through the palace, served as place to pray, clean, rest and even eat.

The Persian baths were perhaps
designed by a Persian architect who
allegedly built the beautiful baths at
Kidichi. The dome-roofed intricate plan
consisted of cold, warm and heat rooms.
The Persian baths were reserved for
Seyyid Said and his first consort only.



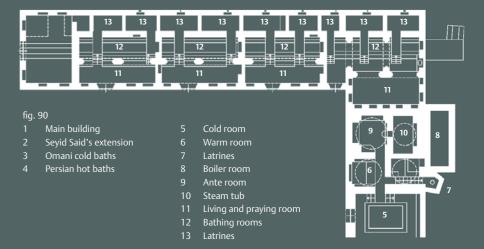






fig. 92 Kidichi baths



fig. 93 Cold room Persian baths

Thave a very distinct recollection of the bathing arrangements at Bet il Mtoni. A dozen basins lay all in a row at the extreme end of the courtyard, so that when it rained you could visit this favourite place of recuperation only with the help of an umbrella. Each bath-house contained two basins of about four yards by three, the water reaching to the breast of a grownup person. This resort was highly popular with the residents of the palace, most of whom were in the habit of spending several hours a day there, saying their prayers, doing their work, reading, sleeping, or even eating and drinking. From four o'clock in the morning until twelve at night there was constant movement; the stream of people coming and leaving never ceased. (Sayyida Salme/ Strachey 1907: ebook)

 \mathcal{F} ntering one of the bath-houses – they were all built on the same plan – you beheld two raised platforms, one at the right and one at the left, laid with finely woven matting, for praying or simply resting on. Anything in the way of luxury, such as a carpet, was forbidden here. Whenever the Mahometan says his prayers he is supposed to put on a special garment, perfectly clean – white if possible – and used for no other purpose. Of course this rather exacting rule is obeyed only by the extremely pious. Narrow colonnades ran between the platforms and the basins, which were uncovered except for the blue vault of heaven. Arched stone bridges and steps led to other, entirely separate apartments. Each bath-house had its own public; for, be it known, a severe system of caste ruled at Bet il Mtoni, rigidly observed by high and low. (Sayyida Salme/Strachey 1907: ebook)



fig. 94 Falay inside Omani baths

 \mathcal{T} he so-called "Persian" bath stood apart from the rest; it was really a Turkish bath, and there was no other in Zanzibar. (Sayyida Salme/Strachey 1907: ebook)

The richly-coloured cupolas, and the extreme freshness of the groves, gives you some idea of an Oriental scene. (Browne 1846: 338)

Inever observed her [Azze] to go out unless grandly escorted, excepting when we went with the Sultan to their bath-house, intended for their exclusive use. (Sayyida Salme/Strachey 1907: ebook)







fig. 97 Kidichi baths entrance