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RECONNECTION

context, artefact and history in designing
the restoration of a Zanzibari hammam

Master thesis in Architecture

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Image on front page:

The octagonal cool room of the Old Stone Town public hammam. Original rendering with plaster visible to the left of the niche. Simon Farsi 2013.

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ABSTRACT

The old Stone Town of Zanzibar off the coast of Tanzania is struggling both for and with tourism. The attractive power of the World Heritage Site is in part the driving motor behind the economy and there are constant struggles to make it accessible and keep it maintained using limited resources. The same motor also threatens the reality and authenticity of Stone Town through commercial replacements of local culture and occasionally reckless developments. From a sustainability point of view there is a dire need to intermingle local use and tourism into self-supporting functions that builds on and develop rather than exploit past and contemporary culture. These needs were linked to one of the baths of the Island in one of my previous projects *The Hamamni Baths, From Artefact to Development Multitool*.

Under Omani rule several hammam, often known as Turkish baths, were built on the island combining Omani and Persian traditions during the second half of the 19th century. The Stone Town public hammam, the Hamamni Baths, was commissioned to the Persian builder Hadj Gulamhussein at the end of the 19th century and was the only public one. It was used into the beginning of the 20th century then remained empty since then except from being shown to tourists. It was saved from complete deterioration in the 1980s but lack of maintenance again threatens its original features.

In the Thesis the building is documented beyond the previous mapping and original use and appearance are reconstructed. Based on a description of the hammam as a typology, the Zanzibari baths are defined as a group in relation to a wider context and the unique combination of Omani and Persian traditions is described in particular. An architectural proposal is outlined to connect this investigation to a possible restoration of the Stone Town public hammam into a functioning bath and an active part of its context.

Keywords:

restoration, Cesare Brandi, hammam, Zanzibari hammam, Persian hammam

CONTENT

Abstract	1	Site Analysis	84
Content	3	The context	
Introduction	6	Synthesis	97
Background		Design criteria	
Aim		Structuring Design Concepts	
Goals		Conserving and altering	
Approach		Concepts of space	
Theoretical outlines		Concepts of use	
Result and future		Section of interior and roof	
Assumptions and delimitations		Plan of interior	
A Theoretical stand	17	Plan of roof	
Restoration Theory by Cesare		Example details	
Brandi 1963, an inspiration		Thoughts on management	
An approach to additions		Conclusions and	
Development and authenticity ...	27	Reconnecting the Design	125
Development		To the original	
Authenticity		To theory	
Hammam	31	To research	
The Hammam		Discussion	127
Historical background		Final Words	129
Persian Hammam		Reference list	130
Omani bathing			
Zanzibari hammam			
The Stone Town Public Hammam 57		Appendices	
Describing a building		Appendix 1: Pre-study (prev. report)	
Style and material		Appendix 2: Building description	
Surfaces		Appendix 3: Photographic docum.	
Construction			
Historical context			
Water and waste			
Original use			

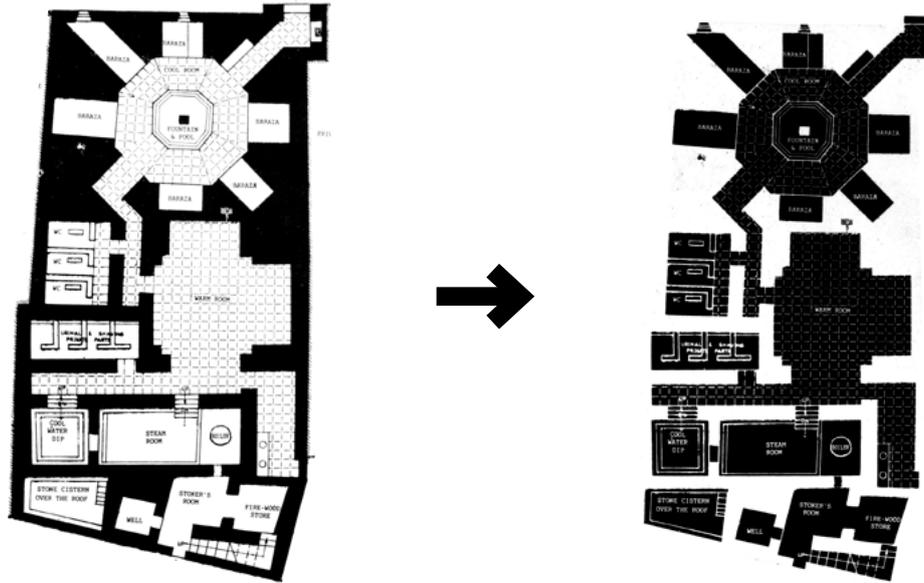
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To Zanzibar, to Stone Town and to those who built and cared for the baths.



“From focusing on artefact to seeing potential use”. Taken from my previous project 2013 Hamamni Baths, From Artefact to Development multitool (see appendix 1). (Original graphics: Zanzibar Department of archives, Antiquities and Museums 1993)

INTRODUCTION

It's more than 30 degrees warm outside and the sun is high. Moving along a street a little less narrow than the average alley of the Old Zanzibar Stone Town, off the East African coast of Tanzania. A woman in a doorway catches your attention and you take to the weathered entrance of a low building. The entrance leads to a small corridor and as you pass the corridor you move into another world, entering the first part of the baths. The sun is filtering down through a skylight ten meters above, lighting a patch of marbled floor.

Had it not been that the baths were closed a hundred years ago the room would sound of the murmur of voices and the occasional debate from people having coffee and cold drinks in deep niches around the octagonal room. A fountain would be filling a pool in the middle of the room with cool water and other people would be sitting around the pool washing themselves.

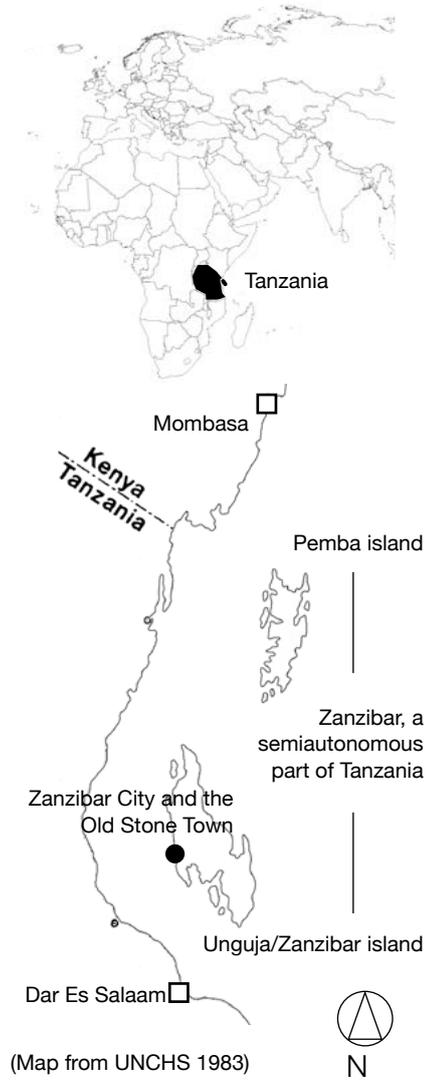
When it was build by sultan Bargash in the late nineteenth century it was the only bath not part of a royal palace. Today the Hamamni Baths is a protected building and the Old Stone Town is a world heritage site. Unfortunately the building is falling into a state of disrepair and the fees collected from visitors barely cover the livings of the guide and the gatekeeper.



An unusually empty evening on Hamamni Street with the baths to the left, Hamam-ni meaning the place of the baths.



Above: The first room of the hammam, the cool resting place to return to after exhausting the body in hot rooms. Note the two original colours of plaster visible where paint has fallen of in the middle of the picture.



(Map from UNCHS 1983)



Top: Theatrical light from the dome over the warm room where the floor would have been heated and steam would have rolled out from the pool to the right. Bottom: The passage from warm towards the cool parts of the building.



To the right: The Stone Town public hammam entrance as an example of the cycle of repairs and deterioration that many of the Old Stone Town buildings are caught in. Note the three different doors where the first is likely to be the original or a close resemblance of it.

Top: Early 1980's (UNCHS 1983)

Middle: Around 1993 (Dep. of Archives, Antiquities and Museums)

Bottom: 2013



Background

The hammam

Although short-lived as a tradition and all abandoned, the several baths that were constructed constitute an important aspect of the nineteenth century architecture of Zanzibar. The bath houses and the Persian hammam in particular are often the best preserved or only remnants of Of the palace ruins that scatter the vicinity of Zanzibar city ¹. This an accounts of the superb craftsmanship they manifest.

The Old Stone Town harboured two major hammam and the larger Stone Town public hammam was the only one on the Island open to public use ². After their use seized somewhere around the 1920s the Stone Town public hammam was abandoned until repaired somewhere between 1983 and 93 and has been used since then as a museum ³.

1 At Kidichi only traces remain of the surrounding building and courtyard (mid 19th century). At Maruhubi the outlines of the palace are clearly visible and pillars remain to indicate the scale and style of the building (end of 19th century). At Mtoni, the baths have been partially repaired and the massive walls of the palace remain fairly intact (mid 19th century).

2 A. M. Juma, A guide to Hamamni Baths. Zanzibar Department of Archives, Antiquities and Museums 1993

3 Curiously enough, the exact time of the repairs cannot be established and no reports remain beside the 1993 guide book. It is clear

A developed use for the bath house was first discussed when an extension was planned but abandoned at the turn of the century before they were ultimately closed. A UNHCR strategic document for integrated development mentions the baths before the retouch as having potential to be actively used in one form or another ⁴. Since then several uses have been proposed but not pursued apart from temporary use during one or two events ⁵.

Old Stone Town, threats and possibilities

Old Zanzibar Stone Town has been central to the development of Zanzibar culture as a melting pot of cultures and an economic motor. It was also the result of a long colonisation and a hub to the extensive slave and resource trade connected to the East African mainland. Many specific circumstances has led to the proliferation of cultural mixture, from the monsoon winds forcing traders to establish second homes for the months of stay between favourable winds, to the shifting political

however that they occurred between 83 when the baths are mentioned and depicted as deteriorated in a UNHCR publication and 93 which was produced afterwards.

4 Lanier Royce and D. Aidan McQuillan, The Stone Town of Zanzibar, A Strategy for Integrated Development, UNCHS 1983

5 A. M. Juma, A guide to Hamamni Baths. Zanzibar Department of Archives, Antiquities and Museums 1993

and economic influences. The revolution and subsequent shifts in ownership, use and perspective has added another layer to this mixture of influences and the expanding tourism continues to alter both appearance and social mixture.

The lack of maintenance and sometimes misuse that followed in the wake of nationalisation lead to deterioration and during the 70's the situation in Old Stone Town was severe ⁶. Under pressure from UNHabitat and UNESCO and with support from external actors, the imminent catastrophe was averted and the local capacity to take care of the heritage has been improved. The heritage is still considered to be at risk but it comes now from two directions. The allocated resources are insufficient for a sustainable maintenance of the Old Stone Town and economic forces applies a consistent pressure to the integrity of the heritage ⁷. The expansion of new uses of buildings and construction driven by the tourism sector are an example of this pressure ⁸. The lack of continuous maintenance leads to restored or repaired

6 Sheriff Abdul (ed.), *The History and Conservation of Zanzibar Stone Town*

7 2008 Strategic Conservation Plan

8 A residential building adjoining the Stone Town public hammam collapsed only recently and the House of Wonders, used as national museum, is temporarily closed due to the collapse of parts of the building. The problem is also described in the 2008 Heritage Management Plan.

buildings falling into a repeated pattern of disrepair and restoration rather than being added to a growing number of well preserved objects. The deterioration of the hammam itself is a distinct example of this very problem ⁹.

Since 2000 the Old Stone Town is a World Heritage Site but already 1970 it was recognized as an important cultural heritage by the Revolutionary government. Many buildings were gazetted around that time and the protection of monuments itself goes back to 1907 ¹⁰. The establishment of the STCDA in 1994 and a Conservation Master Plan the same year brought more comprehensive tools to deal with the future of Old Stone Town. The planning documents compiled by the authority since and presented in 2008 has further structured the work and the requirements imposed on new development ¹¹. Economic

9 A set of pictures of the facade towards Hamamni Street shows this cycle of an advanced state decay (1983), repairs (1993) and new deterioration following the current disregard (2013).

10 The Monument Preservation Decree or act 102 of 1907, under British rule, gave the public authority power to classify, gazette and protect an object as a monument. (stcda-zanzibar.org/whhs/hs#head-pages, downloaded 14-04-20)

11 The 2008 Strategic Conservation Plan and the 2008 Heritage Management Plan deal with general planning within Stone Town as well as the Buffer Zone and with the processes surrounding protection and use of the heritage.

factors however retains a major influence on the management of the heritage and conflicts occur between the STCDA and political interest.

Socioeconomically the Old Stone Town is diverse and rents in government-owned properties allow relatively low income tenants to coexist with hotels and shops targeting a wide variety of customers¹². Although most areas thus include a diverse use and some streets are still largely unvisited by tourists the whole of Old Stone Town is undeniably changing and losing some of the characteristics that comes from this diversity. This has been identified in itself as a threat to tourism and is undoubtedly also a threat to the quality of life for residents. Based on this the current heritage management plan express a need to strengthen mutual linkages between the local community and tourism establishments¹³. Some examples already exist in and outside of Old Stone Town sometimes under the label of eco tourism and include direct meetings such as music classes based on associations and indirect links such as community support and employee involvement by for-profit companies with re-investment plans.

12 An apartment with three rooms can be rented at 90 000 tsh or around 55 dollars a quarter of a year.

13 HMP, Heritage Management Plan 2008, Objective 23.

Current research into hammam culture

In many regions where hammam are found their everyday use is in decline. In some instances tourists are stepping in as new users as in Turkey or circumstances gives rise to renewed use for public bathing facilities such as in Syria. In other cases such as Egypt the decline in public interest has not been met by other needs and the hammam are gradually disappearing from the social sphere. There are on the other hand signs of a growing interest in the understanding and use of historical hammam in the number of articles published on the matter during the last decade. Research projects funded by the EU resulted in a 2012 publication of a collection of articles¹⁴. Restoration projects are also underway at several locations from Morocco to Pakistan¹⁵.

Although efforts have been made to compile comparisons of hammam in Northern Africa and the Middle East¹⁶ there is a lack of descriptive publications including more than one object. The result

14 H. Dumreicher, R. S. Levine, M. Sibley-Behloul (editors); Hammam Rehabilitation Reader; Sonderzahl 2012.

15 See the Seffarine Hammam in Fez (for use), the Al-Tanbali hammam in Cairo (for active use), the Shahi hamam in Lahore (museum) among other projects.

16 M. Sibley and L. Jackson, The architecture of Islamic public baths of North Africa and the Middle East, Article in Arq vol.16 no.2 2012

is a lack of comparative research and overviews of the diversity within hammam culture in the larger scope. The hammam however were once important parts of urban contexts from Morocco to Pakistan and this is the prime quality put forward in many cases of restorations or preemptive support.

The hammam of 19th century Zanzibar and the still practiced Omani bathing traditions are unmentioned in reports. Turkish hammam remain the most well documented (and the most known) as a group although publications of the last decade have brought some light onto the specifics of other variations on the typology.

Aim

The thesis engages with the baths from two points of view. It is viewed on one hand as a previously integral part of Old Stone Town with promising possibilities of reintegration. It is viewed on the other hand as a neglected branch of the hammam tradition.

The prerequisites of a restoration and an active future use were presented in the report *The Hamamni Baths, From Artefact to Development Multitool*¹⁷. The report offers three reasons that the baths are still under-utilized. 1) Any use of the baths

would require continuous maintenance and at least a partial restoration, which is an economic issue not yet seriously dealt with. 2) Historical authenticity is a very important aspect of the conservation of Old Stone Town, requiring attention not yet presented in proposals and a basic knowledge of the original use not readily available. 3) Connecting these barriers is also a need to warrant funding with a framework for ensuring a project that truly serves its context.

When viewed in the light of current hammam research and public interest elsewhere it is also evident that the hammam of Zanzibar, the southernmost hammam of the world are left a missing piece. I see two major reasons for this. 1) They were never a wide spread function of society such as in other regions and none of them remain in use to advertise their existence. 2) They are underrepresented in terms of basic documentation and this hinders comparisons and a possible classification as an independent tradition.

The two perspectives are interlinked and any attempt at restoration hoping to achieve an active and integrated use must be based on an understanding of the building. Since it has been repeatedly concluded that an active use would not only serve the community better than a museum but also provide the economic basis for sustainable maintenance it seems logical to further develop a proposal for its implementation. I wish to add to the understanding of the

¹⁷ Part of the course Reality Studio at Chalmers University of Technology 2013. Simon Farsi.

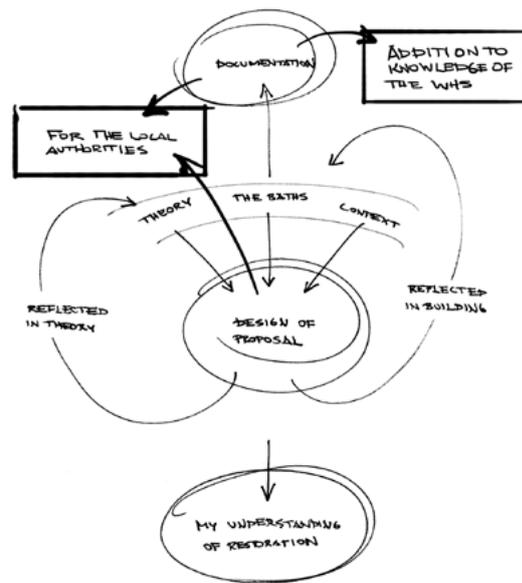
baths of Zanzibar and describe how that understanding can be incorporated in the restoration of the function of the baths.

Within that scope of proposing a way of restoration the relation between historical authenticity and a contemporary users is central. It is vital both to the prospects of using the building in the integrative way suggested by authorities and management plans and to the understanding of the historic artefact and its use that can be conveyed to new users. One might also argue that it is essential for any successful redesign that the context is considered and challenged since it offers users the quality of depth to an experience but it is even more central when the project in question is part of a world heritage site.

Further, the aim is to explore ways to attach meaningful values to a building from the perspective of its complex history and materiality. A rooting in society together with an authenticity rooted in history. This aims to answer the overall question: Can alterations in favour of providing contemporary values and experiences revolve around and actualize the value of the building as an artefact and its history?

Goals

The outlines of the work are drawn in relation to the aim described above, to present data useful for the inclusion of the hammam of Zanzibar in comparisons with those in other regions and to present a proposal describing the possibilities of



Outlines of work with the three primary outputs of the thesis: documentation, proposal and personal understanding of conservation.

using the baths actively and conveying knowledge about them. The thesis is divided in three parts:

Documentation of the Stone Town public hammam; Reconstruction of their original use and appearance; Description of relevant restoration theories and local prerequisites.

I then use the knowledge and tools arrived at this way to synthesize additions and alterations to the building. First by means of design guidelines, then as a proposal.

The resulting proposal is then related back to the data and tools to describe it in terms of authenticity, policies and context.

Approach

Understanding the building itself involves documentation. The mapping carried out in 2013 is added to. To aid in comparing the hammam of Zanzibar with other traditions three other hammam are mapped with regard to the floor plan, a basic piece of data not available today. The mappings are carried out using a laser meter and folding rule at a 5 cm level of detail. A photographic documentation is carried out for the same objects and presented for future references and comparisons.

A comparison is made to put these baths in a wider context. This is based on a general description of hammam tradition and Persian and Omani bathing culture in particular since these are cultures intrinsically connected to the baths of Zanzibar.

A problem related to reading the Stone Town public hammam is that they have been repeatedly repainted over the years and a number of minor alterations have been made during and after their period of active use. For an accurate reconstruction of their use it is necessary to read these changes and to find previous functions in order to compare them with those of other types of hammam. A thorough building description is used to structure this reading of the building.

A context analysis was carried out in 2013 through interviews and case studies and is added to here with a site analysis and further studies of policies connected to the World Heritage Site.

Design as a tool is used here for the two reasons that it conveys possibilities and is a way to focus the testing of design criteria in relation to building and policy. Design criteria in themselves are an important tool for support alterations of the building and possibly to direct or evaluate future adaptations.

Theoretical outlines

An ICCROM report on traditions of conservation in Africa theorizes that "Oral history has always been part of the African world and this has further enriched our tangible heritage, giving it meaning and passing it from generation to generation."¹⁸ In a sense, meaning and artefact, use and building amount to more than the sum of their parts. Finnish philosopher Pallasmaa arrives at another duality, where buildings form part of our collective memory and are a tool for understanding our own place in relation to the constant changes in society¹⁹. Together these views not only explains the fantastic complexity of culture and heritage. They also speak of a duality where meaning

18 Thierry Joffroy, *Traditional Conservation Practices in Africa*, ICCROM 2005

19 Juhanni Pallasmaa, *Eyes of the skin*, Wiley 2012 (1996)

and building lend each other a continuity and a sense of context or realness. Both are important.

In this duality it is also possible to let people of distant contexts make sense to each other through the meanings they see each other assign to a building, as long as they use it in common.

Archaeological perspectives in the thesis will form an important part of understanding the fabric and historical context of the building. The use of this understanding is in part to discuss the complex duality described above in the context in relation to this building; in part to create a full image of its intrinsic values as an artefact and historical document.

In architectural conservation, a current trend is to measure the value of buildings in value provided to their contexts. In the case of World Heritage sites the valuation can be contradictory in terms of whom the heritage and its conservation is for. There is constantly a need to review the tension between values such as meaningfulness to society or visitors, but also historical authenticity. What a building means to people changes as its use changes and without any use except as a museum, part of its value will be lost together with the links it stood or could have stood for between people or people and place. The perspective on conservation as a continuous process

of change presented by Aylin Orbaşlı²⁰ is one of the entry points together with the view of authenticity as a result of multiple layers that is described by Brandi and in the As Found movement. Through the thesis, these dynamic views can be related to the perspective expressed in Old Stone Town conservation plans.

Result and future

With a long-standing intention from the authorities to utilize this and other historical buildings in supporting local society and with key gatekeepers expressing support for the outlines of a transformation drawn in my previous work, there should be a fair chance that a detailed and well informed proposal impacts the future of the baths. It would support better informed decisions on future use and could be a stepping stone towards forming a group of relevant actors or raise initial funds.

From an theoretical standpoint the documentation of the Zanzibari hammam should open up for a more authentic description to future visitors or researchers as well as possibilities of comparing these with other types of hammam.

20 Aylin Orbaşlı, *Architectural Conservation*, Wiley-Blackwell 2007

Assumptions and delimitations

Aside from the technical drawings of the building, my previous work in 2013 concludes that the following four assumptions can be made about the transformation of the bath house. They will not be specifically questioned in the thesis but the design work and its reconnection to documentation and policy offer a possibility to validate assumptions in these areas just as the site analysis offers new information that could overthrow the assumption regarding needs and uses.

1) It is in line with the perspective of the local authorities to make minor modifications, sacrificing physical authenticity in exchange for an authentic use and tighter bonds to society and the context ²¹.

2) With the initial restorations managed, it is possible to maintain the building using revenue from paying visitors through a private company ²².

21 Interviews with the Head of Antiquities at the Department of Museums and Antiquities and the Heritage officer at the Stone Town Conservation and Development Authority, STCDA. There were also affirmative comments from the Director General of the STCDA. (2013)

22 Interviews with key representatives of three tourist businesses: 1, a nature conservation alternative hotel off the coast; 2, a luxury down town hotel set in a historical building; 3, a touring company specialising in cultural experiences.

3) A mixed use by residents and tourists is possible and can be connected to local traditions but requires a conscious management with an awareness of specific entry points for the local society ²³

4) The bath house can harbour a modernisation as well as added functions with unobtrusive changes to the building ²⁴.

For the purpose of this thesis I will not engage in a discussion about the relative importance of buildings in or outside of Stone Town. I will rather look at the fact that the Stone Town public hammam carries a big importance according to local conservation plans, is part of a complex historical context and is the object of an ongoing discussion about future use.

23 A written survey (50 participants in and outside of the neighbourhood). It has also been confirmed in an interview with the owner of a spa geared towards locals as well as tourists. (2013)

24 This was explored in a brief design proposal that considered requirements of space and new functions (see appendix 1).

A THEORETICAL STAND

Restoration Theory by Cesare Brandi 1963, an inspiration

I strongly believe that maintaining a relevant relation to a building is a necessary part of a long conservation and that the question shouldn't be whether or not to allow adjustments to a changing context but how to introduce them in a way that supports historical authenticity. This perspective has influenced the survey, where the Hamamni Baths are looked at from a phenomenological perspective. The re-establishment of its relevance to its context has been a corner stone in the design process. Throughout this text I'm referring to the historian Cesare Brandi, using his theories to understand how objects change over time and what it means that we interact with them. Not least am I using his ideas relating to oneness, a term which he used when describing the integrity of what we perceive of a work of art. Brandi's rules for filling in gaps in damaged works of art were based on this concept of oneness. I use the same reasoning to discuss how to fill the gaps left between an abandoned building and its contemporary context to which it has been left with little or no relevance.

Restoring a work of art

Restoring a work of art must, according to Brandi, be done understanding that it is both material and artistic. Only the material of a painting can be restored and it has to carry the image that is the work of art. But the point where the structural aspects of canvas and paint or foundation and interval materials of a wall can be separated from their effects on the image is difficult to determine.

A work of art has to be seen from two angles. The aesthetic which is to recognize the artistry which is the basis for our interpretation of it as art and the physical (historical). As an aesthetic case, the work of art is recreated as it is interpreted. It exists in its interpretation. As a physical case it is seen as a product created at a certain place and time. Brandi adds that the case of usefulness if applicable (as with architecture) should be considered on the basis of the other two.

Brandi compares art with other human products. A work of art, in any interaction with it, depends not on its material or historical nature but on its artistic nature. As a standpoint this is important to the reasoning behind and action of restoration. I interpret something of the same structure of reasoning that might have led to the Nara Document [of defining a stance towards

authenticity in relation to attributing values to objects of conservation]. In the words of Brandi,

“Once that artistic nature is lost, nothing but a relic remains.”

In those cases where usefulness can be applied, such as architectural objects, it should be considered part of the work of art only on the basis of artistic, historical and physical aspects.

The life of a work of art is a series of moments of which it may retain traces and its restoration should acknowledge these traces as part of it. By doing that you also acknowledge the dual historicity behind a work of art, that of its creation and that of its new existence within each individual perception of it.

The material of a work of art

Going into the material of a work of art Brandi distinguishes it from the image that it carries and derives an appearance and a structural part from it. In a building, this will be analogous to the external and internal parts of a wall, both carrying the image of the space but at one level that can be perceived and one that lies behind (and part only of an analytical image of the space). But he calls into attention that the line between appearance and structure is difficult to distinguish in reality. As an explanation he offers the paint which carries the image and the wood that carries the paint (the wood is mainly a structure

but the use of wood will also imprint the grain of in onto the appearance of the painting). If we venture further we may also discuss the impact that the knowledge of solid stone too heavy to carry by hand has on the subjective appearance of a building but that is in essence a discussion of aesthetics. Depending on how authenticity may be viewed this will be of more or less importance to the restoration. I am intent on providing explicit knowledge about the structure as part of appearance either by absolute earnestness in materiality or the addition of intellectual knowledge to its interpretation.

In a paragraph on the erroneous view of materiality as concerned only with the material consistency of the work itself Brandi provide instead an image where light and atmosphere is as material as marble or paint. Perhaps this is why the tourist often ask wether there is water inside the bath house before they enter. Do they wonder if they will find the appearance that their experience tells them to be a bath house?

‘Oneness’ of a work of art

Brandi goes on to explain the importance of ‘oneness’ to the perception of a work of art. This concept of indivisible oneness cannot however be fully applied to architecture for two reasons. One is the concept of use where function is integrated with the artistic case and is expected to be subject to changing needs. The other is the concept of addition and alteration, which is an almost inevitable part of a work of architecture.

What he derives from the indivisible oneness is that a physically fractured work of art can not be recreated as a whole other than from the original oneness held within each fragment. The reasoning is that to proceed by analogy is to assume that the oneness of what is logically and presumed is equivalent to the original intuitive oneness. Taking this as part of the starting point for restoration, some principles are derived for potential oneness to be re-established without creating either fake or, in Brandis words aesthetic outrage:

1) Integrative intervention must be easily recognisable on close examination without interfering with the oneness. I assume this to be by wish to safeguard the integrity of information in the fragments from which the whole is built. I wish to point here to one design principle set for the architectural project in my previous work, that additions should be distinguishable while keeping actual restorations indistinguishable.

2) Materials cannot be replaced if they contribute not only to structure but to appearance. Greater freedom of action can be given where load bearing structures are concerned, which I interpret as a sacrifice to practicalities that might arise from the wish to safeguard the object that is restored.

3) A restoration should not prevent but rather facilitate future restorations.

4) A part of the image that cannot be re-established and has to be left blank should contrast to its context in such a way that it neither blends into nor destroys the whole (see the following section).

Restoration and time

In relating time to art and to restoration, Brandi describes how a poem changes according to the inevitable changes in the language that ages together with it. His conclusion is that:

“...the time elapsed between when the poem was written (when the language was pronounced in a certain way), and the time when the poem is read (and the language is no longer pronounced in the same way) is very important.”

I find the example interesting in its description of the inevitability of change inherent to the “use” of a work of art (thus its dual historical nature, that it exists in its creation by the artist but also in that it

is perceived). In other words the period between these two points in time will change the image of the work of art in that its material that carries the image will age and in that the context through which the image is perceived will change. Brandi argues that the approach in a restoration of an object can be described as when on a conceptual level it is effecting the object in relation to these points in time. Re-creating a whole from insufficient information requires artistic addition and so takes place before the act of externalising the work (as seen by the perceiver) and should in effect not be considered restoration even if the process physically deals with the final product. It is, in Brandis words “restoration by fantasy”. Inserting restoration within the period between the completion of the work is ascribed equally distorting effects in its erasing of the time elapsed from one moment to which the work of art is reverted (often what is believed to be its original state). Restoration by ‘re-perfecting’

What Brandi concludes from this discussion is that, “...the only legitimate moment for the act of restoration is the actual moment of conscious awareness of the work of art.”

The resulting concept is restorative measures that are emphasized as an active historical event and a participating part in how the work of art is transmitted to the future. By being emphasized rather than hidden, it also respects the complexity of the historical past that is part of the work of art from the viewpoint of the dual historical

nature mentioned earlier. This is a case I wish to dwell on in further studies as a basis of understanding the difference in various parts of a restorative and additive engagement in a building.

The case of patina is touched on briefly from the standpoint that it should be respected as part of the interaction of time with the work of art. This too is a concept worth investigating as an analogy to the additions and alterations that (if accepted as an aspect of use) is part of the patina acquired by architecture over time. From this point of view, the addition or alteration takes part in telling the story of a moment in time between construction and present. And how short is not the step towards asking whether it is not required from the present to put its mark on a building, thus extending the complexity of its historical appearance.

The historical case

Having outlined his theory of restoration Brandi goes on to fill what he points out as a gap between principles and the actual restoration. He bases categorization on the notion of a work of art as both historic document (record) and form but adds that such categorizations can only be used as reference points in a world where every restoration deals with an object that is intrinsically unique.

In dealing with ruins (bearing witness to human history but being in an almost unrecognizable state) the restoration

treatment is described as only a means to preserve the status quo. The consequence derived from this is that,

“It is not enough to know - even with extensive, detailed, documentary evidence - how the work used to look before it became a ruin.”

The statement is clarified by referring to the reconstruction of a certain church that had been bombed. When both historical and artistic factors are at stake, he reasons, the re-establishment of the potential (in available documentation) oneness should not be pursued to the extent that important historical authenticity is overpowered by a new, imposed, reality. I would add that there are examples in the spirit of revealing the obvious lacunae that exemplify how a ruin can be restored to function if not to its previous image while retaining the historical traces leading up to the ruin. Then again perhaps the understanding of perceived reality lies at the heart of determining the correctness of such examples just as it is argued in the text that it is above importance that acts of restoration are inserted chronologically at the moment of perception rather than for example before the acts leading up to the ruin.

Basing his reasoning on the case of the ruin, Brandi states the difficulties in working with an object that has undergone additions or reconstructions. The solution is balance between historical and aesthetic aspects

(of the object). From the historical point of view, an addition is only one more evidence of human activity and part of history. It is then no different from the original and its removal falsifies evidence of the course of historical events if it does not leave trace of that which was removed. In regard to previous restorations, it is argued that it is appropriate to recognise the new oneness that a previous restoration has created regardless of its correctness in regard to the history preceding it. The statement is repeated in other words as,

“Thus, the closer an addition comes to being a restoration, the worse it is; whereas reconstruction will be all the more acceptable, the more it differs from an addition and tries to form a new oneness in place of the old.”

It is added however that although any alterations (including reckless restorations) should be preserved from an historical standpoint or at most isolated, such a view leads at its extreme to an undermining of the authenticity of an object as an historic document. Therefore restoration from this point of view should not be lead to turn upon itself; neither should it contradict the aesthetic case.

The aesthetic case

From the aesthetic point of view, Brandi suggests that a ruin can be seen also as a positive participant in its context, as a work of art and that such a view might imply other relevance than the historical case.

Essentially, if a ruin has been absorbed into another work of art, the second object should be entitled to prevail. By the same reasons as above, the ruin may give validity to its surroundings to be conserved.

He returns then to the issue of additions (now from an aesthetic case) and takes the point of view that often additions have been made to works of art that could recover their original oneness and so the alternative to remove all additions often exists. In seeing the work of art as an aesthetic case and only secondarily as an historic case, an addition should be removed if it disturbs, perverts, obscures or detracts from sight of the work of art it must be removed. While doing this however, other conservation aspects, documentation and traces of historical acts should be respected when possible since they might be removed from the object along with the addition. All the same, the historical and aesthetic points of view must be balanced to some extent, not least in determining the relative value of original oneness and additions. Patina is described in short as part of the image of the work of art and its complete removal as an attempt to put material over image.

On the topic of reconstruction and replacement of the whole of a work of art, Brandi says the following,

“It is an offence against history and an outrage to aesthetics, claiming that time can be reversed, and that a work of art can be reproduced at will.”

An approach to additions

Continuous use

I believe that a sustainable care for heritage implies a continuous remodelling of the relation between it and its possible users. The hope is that such an application of conservation and use supplies the context with complexity and the heritage with a graspable meaning. But any re-evaluation requires an understanding of the original and a very conscious idea of relations and intended relations between object and context. It requires an idea of authenticity as something partly subjective. Questions such as whether a building remains authentic when it has lost all practical significance to its context or if indeed authenticity should be tied also to a sense of continuity in meaning. That is another thing that I look for in my own understanding of the trends and variations in conservation.

“It is our duty to hand them on in the full richness of their authenticity”

The Venice Charter (adopted by ICOMOS 1995) says this about historic monuments. But can any building left unused, uninterpreted by its context or disconnected from a deeper than intellectual meaning be said to carry anywhere close to a full richness? These might have been some of the questions that led up to the Nara conference and the Nara Document on Authenticity.



Almost only lacuna. Creative tracing of long lost original lines of a building, lending new breath to an inert artefact by taking liberties. (Hamar Bispegard in Norway, Sverre Fehn)

Oneness in buildings

I agree with Brandis reasoning that for a work of art, logical and original intuitive oneness is not equivalent to each other. With a building however, the case is often different. Just as a work of art may be referenced to objects of inspiration so can a work of architecture. This in itself does not warrant a copy and past approach in relation to similar buildings as the resulting building contains not only inspiration but a relation to its context (a oneness?). 'Genius locae'. Yet in its construction, the building will set itself apart from a work of art in the way that it confronts and incorporates practicalities. Knowledge about these practicalities provides several clues to the whole of a building even when parts of it is fragmented. The practicalities can be read as a kind of logic in relation to context, other buildings and not least within the building itself. Where certain materials are available, construction will inevitably follow a certain pattern and one wall would most unlikely be entirely different in its appearance than a deteriorated similar wall within the same building. Learning to read these practicalities is a way to read a building. It is as though a shadow of the blueprint is visible in the phenomenological understanding of the building.

Adding to oneness

In discussing the re-establishment of oneness from fragments Brandi offers an approach to treating the gaps that may occur in the image where fragments offer insufficient information. The technical term

is Lacunae, which means gap or missing part and the danger that Brandi points out is that fully blended with its context it may be perceived as figurative, part of the original image. The approach is to use an intentional contrast revealing the gap for the lack of information it is and to balance the contrast so that the lacunae neither fully blends into nor destroys the whole.

The analogy he chooses is of a fleck on the glass in front of a painting. Moving on another layer than the image, the fleck is interpreted for the interruption it is, the mind filters it out from the whole.

The analogy is entirely in line with what I wish to create with the additions to the historical whole of the building but with the intention of etching the entire glass with a new design, clearer than the fleck in Brandis analogy but moving on an other layer all the same, complementing without interrupting the whole.

Use and time

While I understand Brandi downplay the importance of use to the artistic and historical value of a work of art I see within architecture its link to the traces that it may retain of the interval between it being conceived, as a work of art and abject of use, and today. Ultimately it may become a question of when to halt the ever moving present and decide that no more traces should be.



Status quo. Glazing over to stop the time around a long lost shape not to be longer lost. (Hamar Domkirke in Norway, Lund & Slaatto)



Is this an intrusion? Subtle additions to nature. (Part of the Turistveijen project in Norway, Jensen & Skodvin)

On the relation between addition and host

A painting may acquire a new frame to better suit a new context and a building may acquire an extension or a new door. Perhaps in this way the building it sets itself apart from the works of art that Brandi speak of since it is *assumed* to be altered with time to a degree that extends beyond a new frame.

The central question in my own discussion is perhaps then how to link the interval between the construction of a building and its historical present with the alterations and resulting intervals yet to come.

The series of historical presents, Brandi argues, are also important as reference points in the perception of a restoration. From which of these points will the work of restoration be perceived to stem from? By assuming or fabricating parts of the whole that have been lost, it will seek for example to place itself before the act of artistic creation. The same problem has been a long standing discussion in the field of architectural restoration. Should restoration works refer to original appearance, original intention or, should in fact all traces of time be included such as in an as-found perspective. The attitude seem to have shifted considerably and aspects of many views seem to remain in various approaches even today.

The fleck on the glass

In short, fully blended with its context an alteration will be misinterpreted as part of the original image. With a balanced contrast however the filled in gap is revealed for the lack of information it is. Such an alteration neither fully blends into nor destroys the whole. To explain this, Brandi used an analogy of a fleck on the glass in front of a painting. Since it resides on another layer than the image, the mind filters it out and it is scarcely noted. However, if it is intentionally focused on it easily reveals itself for the interruption of the image it is

The intentional replacement described earlier, the management of a dynamic authenticity would in essence have follow this same principle with the intention that new, distinct, layers are constantly added to an object. The idea, to paraphrase Brandis analogy, would be to etch the entire glass with a new design, clearer than the fleck but residing on an other layer all the same, without interrupting the perception of the previous whole.

DEVELOPMENT AND AUTHENTICITY

My pre-study from 2013, the report *The Hamamni Baths, From Artefact to Development Multitool*, deals in part with the concepts of development in tandem with conservation of the Old Stone Town and with Authenticity in the sense of appearance and use of the heritage. Two documents that have had a big impact on how development and authenticity has been viewed in the Old Stone Town among other heritage objects are the 1987 Washington Charter and the 1994 Nara Document on Authenticity. They are described here as an entry point to development and authenticity in the context.

Development

Reading the Washington charter

The ICOMOS Charter for the Conservation of Historic Towns and Urban Areas, 1987 complemented the Venice Charter and brought the cultural properties of historic towns and urban areas in as an important part of the memory of mankind. The background was a recognition of cultural, social and economic losses that threatens to be the impact of urban development in historical contexts.

The charter emphasizes the link that must exist between protection and development, between conservation and adaptation to contemporary life.

The Charter includes four main principles and objectives that I will recount briefly as:

- 1 Conservation as an integral part of policies of development and planning;
- 2 Material and spiritual qualities to preserve, especially: Urban patterns, relationships between buildings and space, formal appearance of interior and exterior, relationship between town and setting, functions acquired of time.
- 3 Focus on residents.
- 4 Systematic approach and individual attention before rigidity.

The methods and instruments are included in the twelve paragraphs following the principles (5-16) and deals with preemptive measures such as accumulation and distribution of knowledge, practical preservation and protection with a professional approach and guidelines for the integration of improvements and new elements. Guidelines for the deployment of a conservation plan precedes the other paragraphs and should be read presumably as a means to transfer initiative to a local level. Therefore I assume that the charter should be read only as the backbone and the basic intention behind the local plan it when discussions occur around it.

The Charter and Stone Town

In a brief account of the work done concerning conservation and development by the authorities in Stone Town I see several aspects described in the principles and methods that appears to falter. There is a lacking continuity of maintenance and resources are either too small or inefficiently used to improve and retain knowledge and expertise.

Additionally resources are equally insufficient to handle basic restoration, maintenance of the bulk of historic buildings and for structured integration of the technical services.

As appears to be the case in many contexts the ambition from developers and the outset of productive dialogue between them and the professionals at the authorities seem to be lacking as well. The result is that additions and alterations are either historicizing or entirely out of harmony. Few additions develop new aesthetics and customs while also connecting to the historical context.

Development of heritage itself?

Allowing development is acknowledged then as a fundamental requirement for functional conservation of historical urban areas. Development in this sense is something I understand as concerning residents. My interpretation of the Charter is that it sets the conservation of the memories of mankind in one corner and development in another only then to try to

find ways to make them work in tandem. It is a work of compromises. The charter states that the addition of new elements should not be discouraged and that first and foremost the residents should be at the centre of considerations. Yet in Old Stone Town I see a kind of backwards movement of the blending and integration of new cultures that once built the historical context that is now being conserved. I wish to see a situation where additions and interpretations are encouraged. It would mean working towards a full integration of the historical culture into new culture and a continuous work at that.

What might be the result of such a handling of heritage? In the case of tourism it would lead, perhaps, to the making of an active and increasingly complex culture on which to build an industry instead of the finite heritage that might eventually lose its relevance other than as a curiosity. For the society who live the culture or live with what built parts are left of it from another time it could be a way to assign practical and aesthetic value to things that may otherwise lose their relation to reality. For the heritage itself it could provide a safeguard against disconnection from its cultural context and an increasing complexity.

That is what I will be looking for while reading further about contemporary conservation. Heritage as foundation, inspiration and a growing ground for complexity.

Authenticity

Reading the Nara Document on Authenticity

In 1994 in Nara, Japan a conference was held to relate authenticity to the World Heritage Convention. The 45 participants drafted a document incorporating 13 paragraphs concerning views on diversity, value and authenticity. It also includes an appendix that notes several approaches to future work on the matter. The ambition was to challenge the conventional thinking in the conservation field of that time and bring greater respect for diversity within cultures and heritage.

In four paragraphs it is suggested that the development of this very diversity within and between cultures should be central to human development and it is added that it is part of the responsibility in maintaining the heritage.

In paragraphs 9 to 13 the connection between value, knowledge and authenticity is discussed.

9 Conservation is rooted in the values attributed to the heritage. Reliable sources of information is the basis of assigning these values and relating the information to the original and current character of the heritage is the basis of assessing authenticity.

10 Authenticity is the essential qualifying factor when assigning values. Understanding authenticity is fundamental to studying and working with the heritage.

11 Judgement about values must be made within the cultural context to which the heritage belongs.

12 It's important to study the nature of heritage values within each culture.

13 The use of a great variety of sources of information on values permits elaboration of specific aspects of the object that is studied.

An appendix suggests a set of approaches for determining authenticity within a given context and emphasizes the important of community consensus. Increasing awareness of the values attributed to monuments and respect for their role today is explained to be fundamental in order to safeguard the heritage.

I see it both an acknowledgment of differences in interpreting the heritage and an explanation of the complexity of assessing authenticity in such a perspective. However I fail to see the genuine concern for active relations to the heritage that I read from the Washington Charter of 1987.

The document and Stone Town

Stone Town offers a complex case in two ways when viewed in the perspective of the Nara Document. Sources of information

are disparate and appears to be hampered by many problems including that of the attempts to mold a new history following the 1993 revolution and a lack of continuity in both documentation and employed expertise. It also offers the complexity of a colonial heritage where, perhaps, many lack a genuine interest in conservation other than for economical reasons.

A central question is of course what kinds of value that are attributed to the heritage of Stone Town and what parts of the heritage it is that should be discussed in terms of authenticity. It should be equally interesting to investigate what challenges the future might hold for the values attributed to the heritage. Will the needs of society be the same and what would change in the case that tourism would disappear as a measure of the economic value.

HAMMAM

The hammam

All in all there are numerous variations on the theme and the baths called hammam include diverse examples of facilities. There are the sulphur baths of Georgia, the open springs in Oman, the Hammam Esalihine in Algeria that is actually a Roman bath and the Hyderabad mortuary hammam in India used only to cleanse the royal dead. Hammam in other words is an including term. The ones presented further on are but examples and a number of other countries are sure to have remains of the old culture.

Commonly the hammam are known as Turkish baths, perhaps because of the import of sweat-baths from Turkey by the British in the Victorian era of the 19th century. This however is but a subset within a faceted and in some places colourful typology.

The word itself, Hammam, translates from Arabic and Persian to Heat or Sweat, and this gives a clue to a common aspect. Just like the Roman baths and to an extent the Greek before them the hammam is about heat. It is about movement from the neutral cool air of a first room, through warm spaces to a hot core and back to the cool. This is held common by almost all hammam.

Historical background

The hammam have been centres of public space in many regions for hundreds of years. Although the direct connection between Greek baths through the Roman to hammam hasn't been clearly documented and proved the use of baths with remarkably similar functions have been a continuous part of public life since the classical times.

Greek and Roman baths

In a paper written by Fagan in 2001, the research around the origins of the Roman baths is summed up and reviewed²⁵. Although the transition from Greek to Roman baths isn't entirely clear, it is argued that what truly signifies a Roman bath is the dual feature of a sequence of gradual change in heat through the rooms (frigidarium, tepidarium, calidarium) of the baths and the inclusion of heated communal pools (called solia or alvei). The inclusion of sweat baths (laconia or sudatoria) is among the elements argued to be later additions and variations along with exercise grounds, and open-air pools. The same paper describes several theories of which some are resent and discusses their shortcomings and the

25 Fagan G. , The Genesis of the Roman Public Bath - Resent Approaches and Future Directions, 2001

apparent difficulties in describing an origin of the Roman bath. According to Fagan, much research clearly links the appearance of the hypocaust to the appearance of the Roman bath itself as a typology. Other sources however provide evidence of heated floors and walls in pre-roman (Greek) baths. Some of these heating systems had begun to evolve from rudimentary heating channels. It is also enlightening to note that Sweat baths were an integral part of Greek baths in the region of today's Greece. As were heated communal immersion pools around the western regions, specifically Morocco.

Considering the variety of functions beyond the ones common to all Roman baths, perhaps they developed not only from central planning and commissioning but from local, geographically separated customs stemming from pre-roman times. This line of thought carries even greater interest when viewed in the light of comparing hammam from the Ottoman era with the then long past Greek customs in Morocco and Egypt. Some features seem to carry across the ages.

The hammam develops

The Roman (and Byzantine) tradition included both the large public *thermae*, and the smaller publicly or privately owned *balnea*. While the *thermae* were large establishments occupying large areas to offer facilities for sporting and culture as well as for bathing, the *balnea* existed within the weave of the city and in greater

numbers. According to M. Sibley and L. Jackson, the latter stands as the origin of the hammam²⁶. Technically however, the transition would have been from Byzantine baths²⁷ (with the Yeni Hamam in Thessaloniki said to be an Islamic bath built on the grounds of a Byzantine²⁸).

Simultaneously the architectural tradition became faceted as it was spread and applied in new climatic and cultural contexts. Bathing habits acquired an equal multiplicity as they diverged from the Roman tradition and were adapted to the Islamic. The term Islamic baths is used in some instances to translate the essence of the term Hammam. It gives more justice to the multitude of architecture and tradition evolved from a common idea than Turkish baths. It also offers a background to some specifics of the use of the baths such as how the body is cleaned or the division of spaces.

Geographical spread

Since many hammam were built in vast empires, they are now scattered over many different countries and cultures. From the

26 Sibley M. , Jackson L. ; *The Architecture of Islamic Public Baths of North Africa and the Middle East*; 2012

27 Dumreicher H., Levine R. S., Sibley- Behloul M. (editors); *Hammam Rehabilitation Reader*; Sonderzahl 2012.

28 greeka.com travel magazine, Article on Thessaloniki Ancient Sites (article downloaded 14-04-23)



Hamam Essalhine in Algeria, an original Roman bath (Ghezal Tarek 2009)

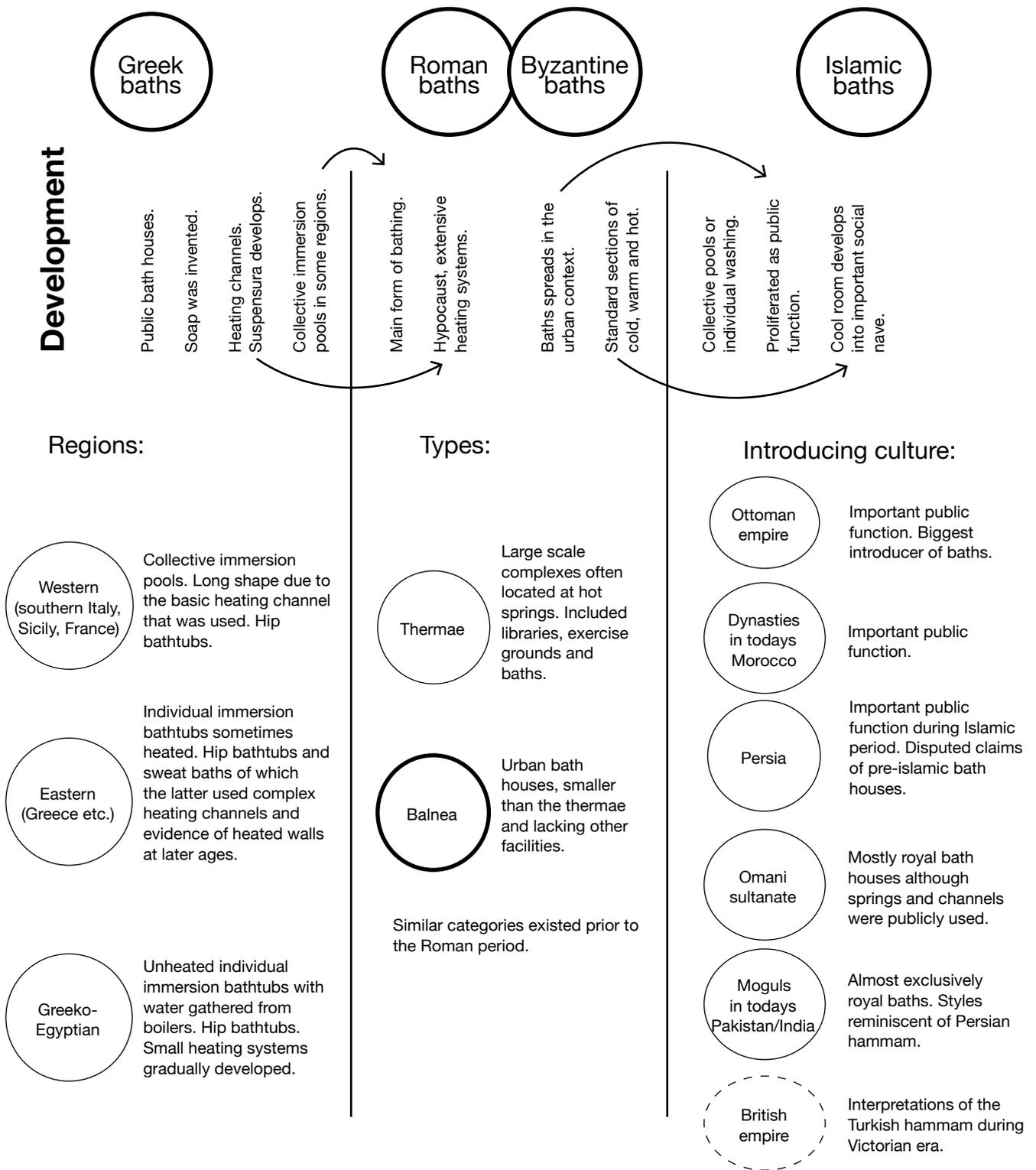


An imagination of the Greek bath in Gortys on Crete (After plan by Trumper)



The echoing sound of water. An hammam in time of war. Kabul, Afghanistan 2011. (Shineyourlight blog 2011)

From Greek baths to the hammam



hammam of Morocco or India, developed independently from Ottoman influence to the most iconic Turkish baths in Istanbul (see map). A number of examples have been marked out on the following map to give a sense of the spread of the concept. The Ottoman empire has been marked out at its greatest extents between the 16th and 17th century as hammam within this area were built during the Ottoman period. Persia is marked out as it was during the time that the hammam of Zanzibar were built together with Oman around the same period. The overlapping that can be seen between the two latter was indeed one of the reasons the sultan of Oman married a Persian princess, hoping to achieve a solution to the war between the two kingdoms. This in turn is said to have been the reason the baths were built in a Persian manner.

See next page for map:

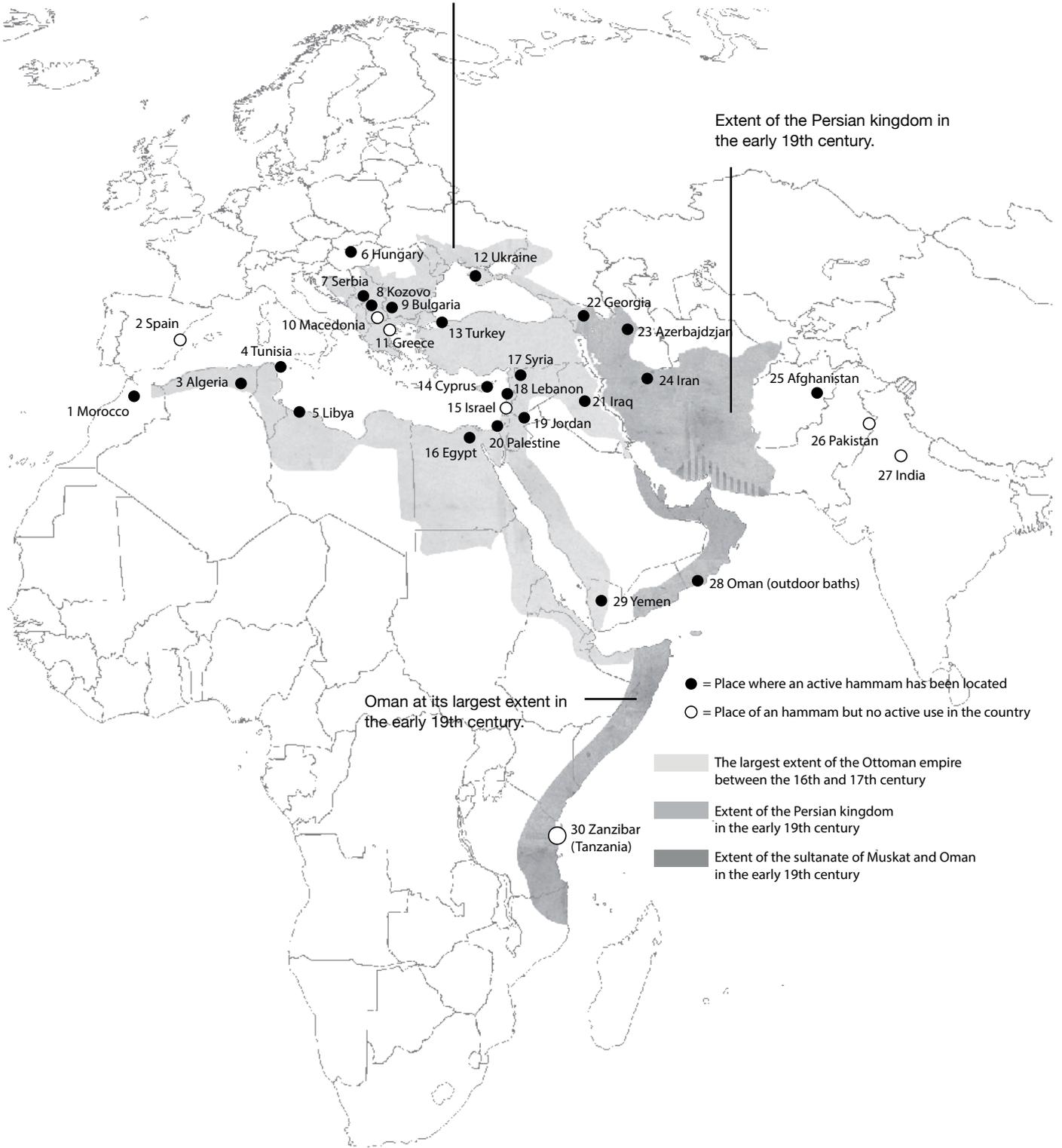
- 1 Morocco - Still an active culture. The region was never under Ottoman rule but was influenced by Islamic conquests. One example of a hammam is the Seffarine hamam in Fez, possibly dating to the 14th century.
- 2 Spain - Although not wide spread, there are examples from early 14th century (Banys de l'Almirall in Valencia is one example built 1313, operational until 1959 and used today as a museum).
- 3 Algeria - Information on hammam is scarce but at least one bath is operational although it is curiously one from the Roman period, the Hammam Esalihine on top of a hot spring.
- 4 Tunisia - The country has a living hammam culture with both traditional and modern styled baths.
- 5 Lebanon - There are still operational hammam in Tripoli. The history of hammam culture appears to be divided in buildings dating to the 14th century and to a later period around the 18th century. Al-Nouri Hammam built in 1310 is one example although not in use, while the 18th century Al-Abed hammam is still in use.
- 6 Hungary - A number of operating hammam from the 16th century. Immersion pools with mineral water.
- 7 Serbia - Hammam from the 15th century. One hamam in Novi Pazar is notable for its large immersion pool and other similarities with the Persian tradition.
- 8 Kozovo - The Great Hammam in Prishtina is one of the remaining but not operational hammam and dates to the 15th century.
- 9 Bulgaria - The Chifta Bath in Kyustendil is one of a few operational baths from the Ottoman period although not called hammam. There are several mineral baths in use in the country.
- 10 Macedonia - Apparently no operational hammam but an example of a remaining one is the Daut Pasha Hamam in Skopje which now houses the national art museum.
- 11 Turkey - Baths are still operational and many have found a vital role in tourism. Local use however appears to be in decline.
- 12 Ukraine - One example although not in use is the hamam in Yevpatoria, that appears to have been in use well into the 20th century.
- 13 Cyprus - Hamam Omerye in Nicosia, built in the 14th century. Restored to use in 2003 in the EU-funded Partnership for the future project.
- 14 Palestine - Hamam al-Sammara remains operational in Gaza. It is rumoured to date from pre-islamic times but the earliest evidence is a restoration in early 14th century. Hamam Al-Shefa in Nablus is another example. Other baths were constructed mainly in the 14th century.
- 15 Egypt - A number of operational baths. Predominately from the 16th century. Hamam Al-Tanbali in Cairo is currently being restored to use.

- 16 Jordan - Information about Jordanian hammam is scarce but the Al-Pasha hamam in Amman remain operational. There are also a number of new facilities connected to hotels.
- 17 Israel - The museum Hamam al-Basha in Akko is notable for the statues of bathers now occupying it. It was constructed in the late 18th century.
- 18 Syria - A once wide spread tradition is in decline but operational hammam remains in both Damascus and Aleppo. The hammam of Syria dates from between early 13th (Hamam al-Sultan built in 1211 is one early example) century and at least late 15th century (Hamam Yalbugha built in 1491, is an example from this period).
- 19 Iraq - Although little information is readily available, there are operational hammam in Baghdad.
- 20 Georgia - Examples of operational hamam in Tbilisi as well as examples of repurposed hammam. Baths often use mineral water and the sulphur baths are one example of this.
- 21 Azerbaijan - Several operational hamam remain, in Baku and other places, and most of them are built during the 19th century. Styles appear to vary but many baths have laving entrances with mosaic decorated iwans.
- 22 Iran - There are several operational hammam although all have been converted to use showers instead of the traditional pools. There are also a few museum hammam.
- 23 Yemen - Hamam Al Abhar in Sanaa is still operational and dates to the 17th century.
- 24 Oman - A bathing tradition exists but is centred around natural springs or certain places along the open channels called Falaj. These open-air baths are indeed called hammam however. The Dhofar area is famous for its many springs.
- 25 Zanzibar - Younger than most hammam cultures, with all baths built in the 19th century. The Persian type of hammam is mixed with additions of private facilities in the same complexes. Only one public bath beside the royal but none in use.
- 26 Afghanistan - Hammam are still in use and several news stories speak of the importance of the traditional baths in a tumultuous context.
- 27 Pakistan - Shahi Hammam or Whazir Khan hammam, in Lahore, built in the mogul period and dating to the 17th century is undergoing restoration into a museum after a period of alternative uses. There appears to be no examples however of public hammam.
- 28 India - The Red fort royal hammam, although now a museum, is one of the baths built during the mogul period. It dates to the 17th century.
- 29 Greece - Although no hammam appears to be in use, there are several closed ones built during the Ottoman period.

Various on-line sources. Maps from wikimedia Commons. See reference list of file names.

The Ottoman empire at its largest extent between the 16th and 17th century.

Extent of the Persian kingdom in the early 19th century.



● = Place where an active hammam has been located
○ = Place of an hammam but no active use in the country

Light grey: The largest extent of the Ottoman empire between the 16th and 17th century
Medium grey: Extent of the Persian kingdom in the early 19th century
Dark grey: Extent of the sultanate of Muskat and Oman in the early 19th century

Persian Hammam

One of the particulars of Persian hammam is the inclusion of collective immersion pools, a feature they share with the Egyptian tradition among other. The warm room, *garme-kāna* employ heated floors for massage much like those in Morocco, which are lacking in the Egyptian tradition and appear in the form of heated tables in most other types of hammam including the otherwise Persian styled baths in Lahore and New Dehli (see 27 and 28 on map).

In modern times the immersion pools, *kazīna*, of which there were originally two or three of, offering hot, warm and cold water, have been replaced with showers. Many sources point to the pools and the problems of hygiene as the reason why many baths were eventually closed or



Amery-ha House private hammam, Kashan in Iran (Rahman Mehraby)

converted (Encyclopedia Iranica). The original use of the hot pool appears to have been that of a place to wash with soap and to perform total ablution (holy cleansing with water) by immersing oneself a few times. In some baths these pools are placed in pillared rooms much like those in Egypt and sometimes depicting mythical heroes. Based on the around 50 hammam that were studied in photographs, the Persian style shows an emphasis (where decorated) on arabesques (or *islīmi* in Persian).

While hammam in all regions vary between unadorned and lavish, floral patterns are common among the latter kind from Iran to India. The *islīmi* that developed in Persia during the Islamic period have distinct abstract and often geometric qualities that are prevalent in these hammam.

A recollection of modern use

This is the short recollection by a bather, visiting one of the baths of Tehran in the seventies. “The whole thing was special. It’s not just a bath house the way it is here in Sweden. You visited the hammam to have massage, to see your friend. In the first room of this hammam the fountain in the first room was used to cool plenty of juice and other drinks.

You would get cloths to wrap around your waist and you would go to the warm room. Along the walls of the warm room were benches where someone would scrub you. We didn’t scrub ourselves and instead the



Close to architecture. Ebrahim Khan bath in Kerman, Iran. (Unknown source)



Graphical. Soltan Amir bath in Isfahan, Iran.
(Mohsen Gaemi 2008)

Omani bathing

There appears to be no accounts of hammam in what is Oman today other than the occasional hotel spa. Likewise no hammam seem to exist in the parts of Yemen that were once controlled by Oman although there is an operational hammam dating to the 17th century in Sanaa, in the part of Yemen that was under Ottoman rule (see 23 on map).

What do exist in Oman is a large number of natural springs in the mountain regions and a system of canals, aflaj (falaj is the singular form) to carry water from them to inhabited areas. Some springs are used as is, for bathing and are advertised as tourist attractions. According to official sources there are well above 4000 aflaj throughout Oman of which more than 3000 are still providing water²⁹. There are descriptions of traditional aflaj mentioning bathing along the line of uses which are in order; drinking water, mosque wash place (mens baths), public buildings, women baths, irrigation. One such description depicts the mens baths as partitioning walls built across the falaj just by a mosque and the women baths as a larger walled area before the irrigation ditches begin³⁰.



Bathing in a Rural Aflaj, or channel, in Oman.
Christian Fenwick

A study of culture concerning women in Oman from the mid 20th century describe shocked reactions to mentioning of the hammam of other cultures, "...because it involves women seeing each other in a state of undress."³¹. This would explain the lines of separated personal baths included at the side of some Persian styled hammam in Zanzibar from the Oman period. The recounts by a woman from Oman of the falaj in the eighties describe a similar scenario at a places built for bathing in water from a falaj³². In this description she makes a distinction between the women

29 mrmwr.gov.om, Ministry of Regional Municipalities and Water Resources (article downloaded 14-04-25)

30 sollutionsforwater.org, article 2633 - Aflaj Systems as a Suitable Sollution for Water Supply in Arid Areas, Al Azri M. M. 2012, downloaded

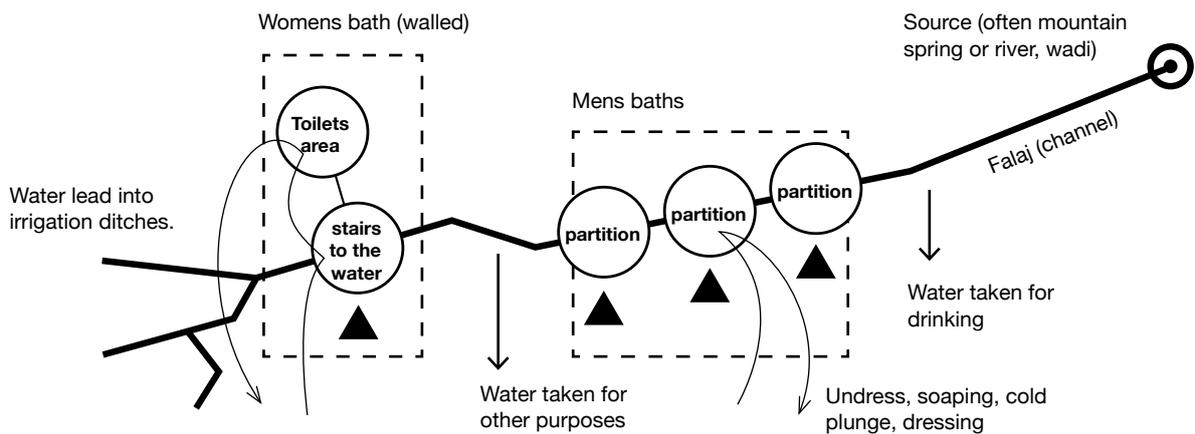
2014-04-26

31 Eickelman Christine, 1944 Women and community in Oman, New York University Press 1984, p. 126

32 realityinoman.wordpress.com/author/omani0dreamer/ article from 2010 (article downloaded 13-12-15)

falaj and the mens (which would be next to the mosque). It is mentioned that in fact the men would be the most cautious not to see each other undressed and that this was more accepted among women (actually ranging from bathing openly to using a cloth to create a partition or simply bathing with clothes on) although she also notes that this view has changed until today. The women falaj is described as a walled area

with various functions and the mens falaj to have a number of partitions to allow for private bathing, mirroring the description mentioned above in both cases. The article was written in 2010 and claim that men still sometimes go to the falaj to bathe but that the tradition is almost nonexistent among women today.



Schematic of Omani falaj
(derived from a schematic presented at solutionsforwater.org and verified in the description above).

— Falaj
— Open

On a side note: The diagram paints a sad picture of the view of women in the context (even if it is subject to both place and date within Oman) but although it could not be covered here, the gender issue in fact varies a lot within hammam culture and there are more positive examples as well.



No architecture. Bimmah bath, Oman (jandwendy.com 2008)

Zanzibari hammam

As mentioned above the baths in Zanzibar were constructed under Omani rule and to suit both Persian and Omani tradition. Since the capital of the Omani sultanate was in Zanzibar around the mid 19th century when the hammam on the island started to be built it makes sense to connect these baths to Oman.

The period under which they were built was also one in which the sultanate enjoyed an enormous wealth to invest in the costly construction of these facilities of which the Stone Town public hammam is an example. In that sense it is similar to the background of the hammam in today's Pakistan and westernmost India, built exclusively as royal baths with no broad public tradition behind it. It is interesting in that light to note that the only public hammam of Zanzibar doesn't seem to have been very successful, seeing that it was closed only some 40 years after its construction. Very little is known however about how the public related to that baths other than that the substantial fees that were supposed to have been taken points to an exclusive use.

A separate typology

Although connected to Oman, the specific combination of both original Omani and Persian tradition in the hammam in Zanzibar calls for the description of a separate typology. There are several aspects of their layout and style that supports this separate description, most importantly:

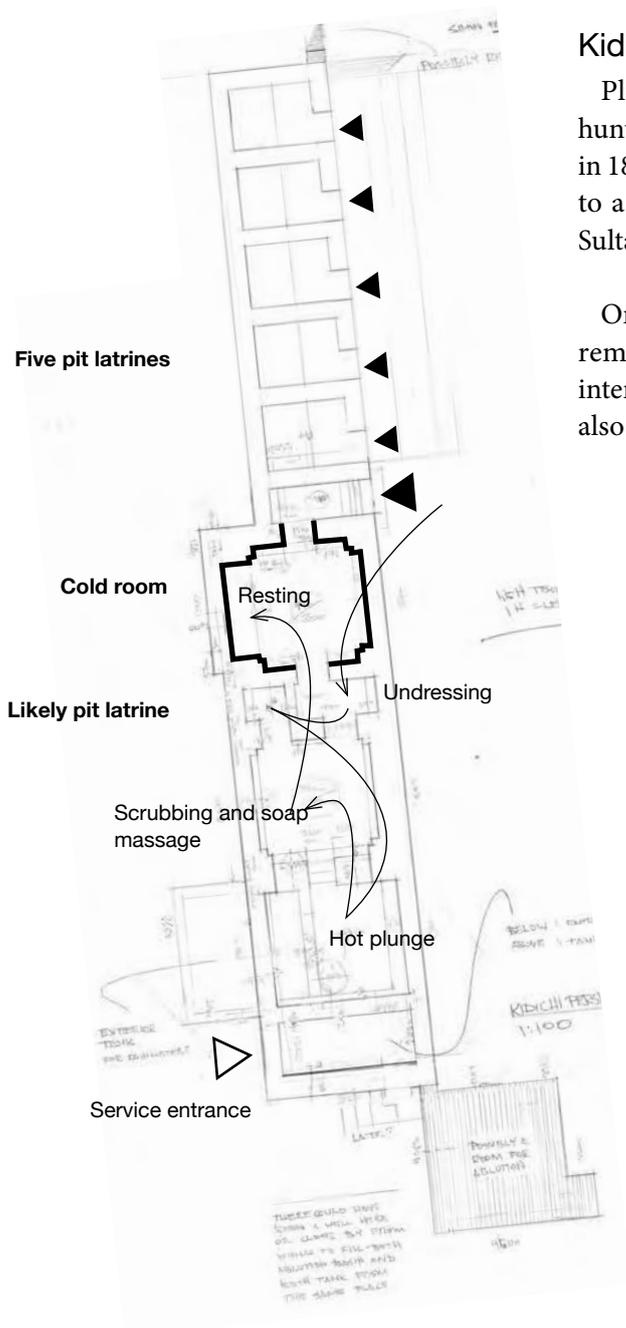
1) The lack of fountains in all but one hammam setting an unusual disposition with large empty floors in the cool rooms and the unusual emphasis on toilets and the inclusion of separate baths in at least two cases ³³.

2) The predominately unadorned appearance and the inclusion of small circular light shafts in some domes, as opposed to the single oculus used in most Persian examples.

In other words, the Zanzibari hammam differ from the Persian type both in terms of use and style. The lack of comprehensive documentation on Persian hammam in Iran hampers a conclusive definition of the Zanzibar hammam in relation to them. Furthermore only one Zanzibari bath has been previously mapped ³⁴ for comparison beside the mapping of the Stone Town public hammam that I did 2013. Three more baths has been mapped however to provide a more comprehensive base for defining the type. They are presented here in what appears to be the chronological order although this is but a guess, until more precise dates of construction can be established.

33 At the Maruhubi Palace and at the Mtoni Palace (new mappings on site).

34 The Mtoni Palace baths, (Folkers Antoni et al., Mtoni, ArchiAfrika 2010)



Kidichi royal hammam ~1832-47

Plan of the hammam at the Kidichi hunting lodge, believed to have been built in 1832 although some circumstances point to a later date, after 1847 when Said Bin Sultan married a Persian princess.

Only the baths and some traces of walls remain of the original structure. The interior feature detailed floral decorations also depicting birds and other animals.



scale 1:200



Based on new mappings



Persian style decorations, a few exposed areas reveal superb craftsmanship under the many layers of crude restorations.

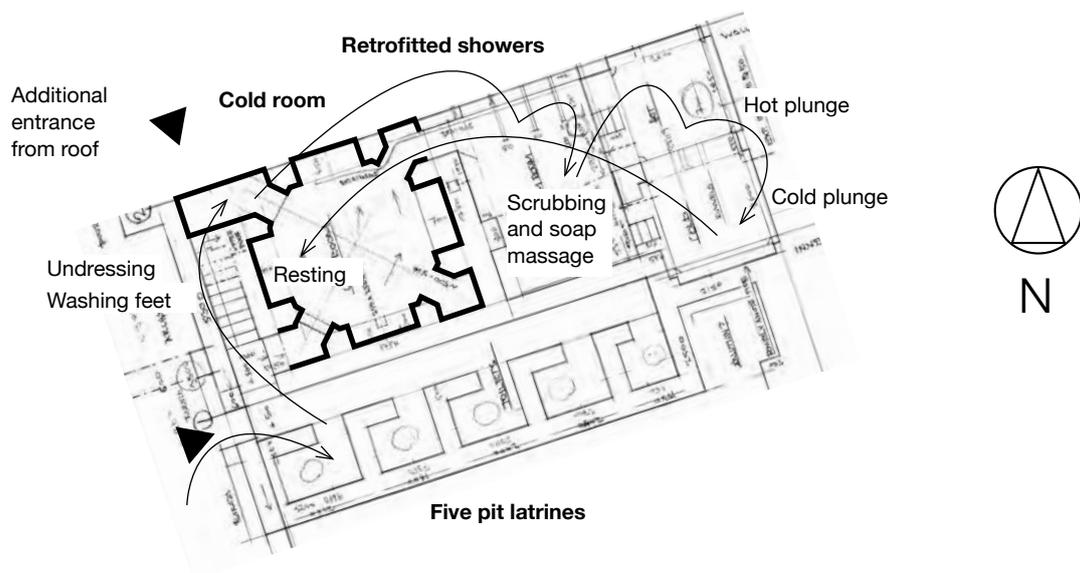


The five latrines and further on the entrance to the Persian style hammam with two domes.

Forodhani royal hammam

Plan of the hammam at what is now the Forodhani School.

The original tiling of the floors has been recently uncovered and the cool room in particular is very close in style to the Stone Town public hammam. Together with the public hammam, this one was fitted with tap water when pipes were brought to the Old Stone Town.



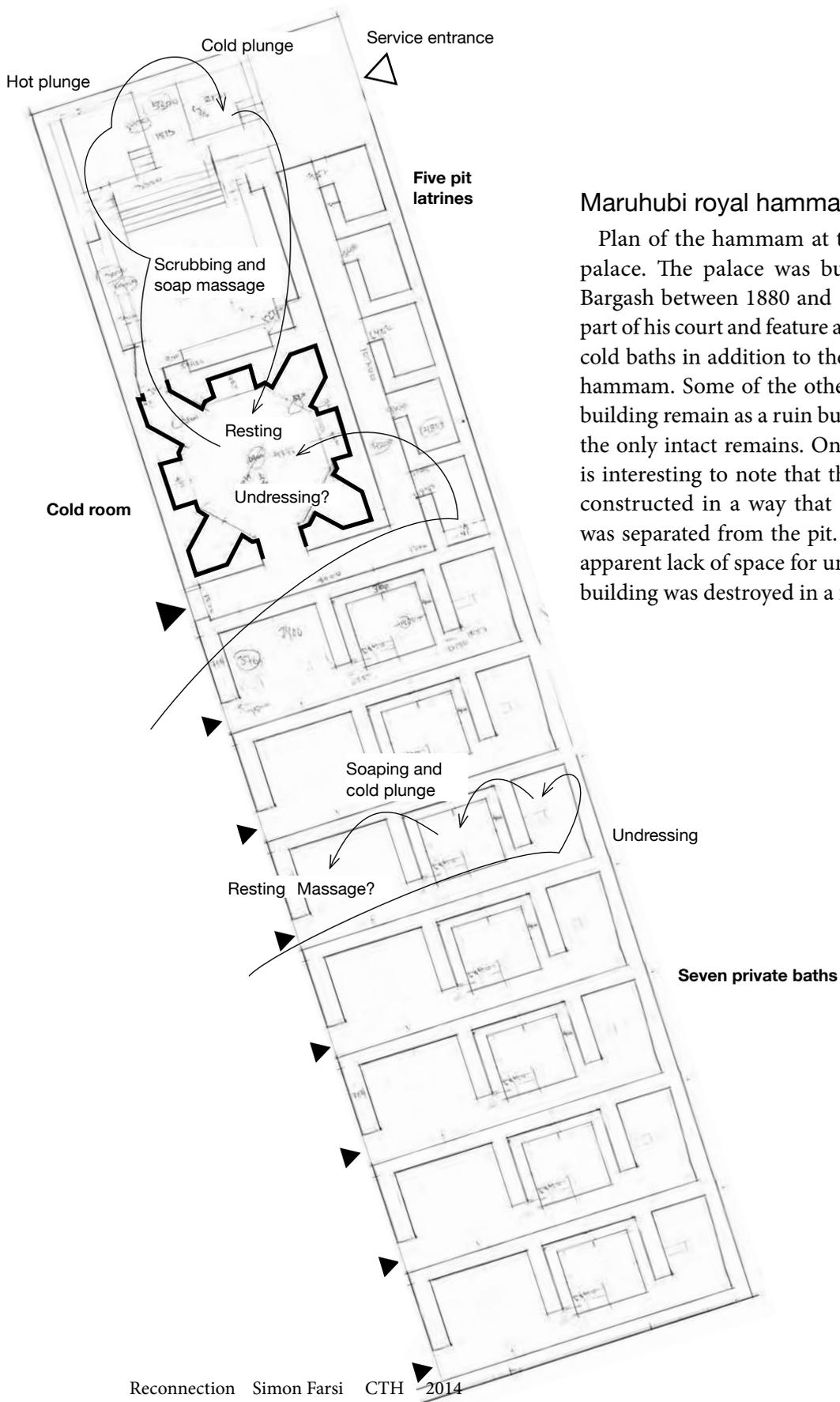
10 m scale 1:200
Based on new mappings



The retrofitted showers with concrete partitions.



The palace now houses the Forodhani Secondary School. Note how the roof with its domes has been hidden. It is possible that the space was used by the court since a second entrance leads directly from it to the baths.



Maruhubi royal hammam 1882

Plan of the hammam at the Maruhubi palace. The palace was built by Sultan Bargash between 1880 and 1882 to house part of his court and feature a row of private cold baths in addition to the Persian style hammam. Some of the other parts of the building remain as a ruin but the baths are the only intact remains. On a side note it is interesting to note that the latrines are constructed in a way that suggest urine was separated from the pit. Note also the apparent lack of space for undressing. The building was destroyed in a fire 1899.



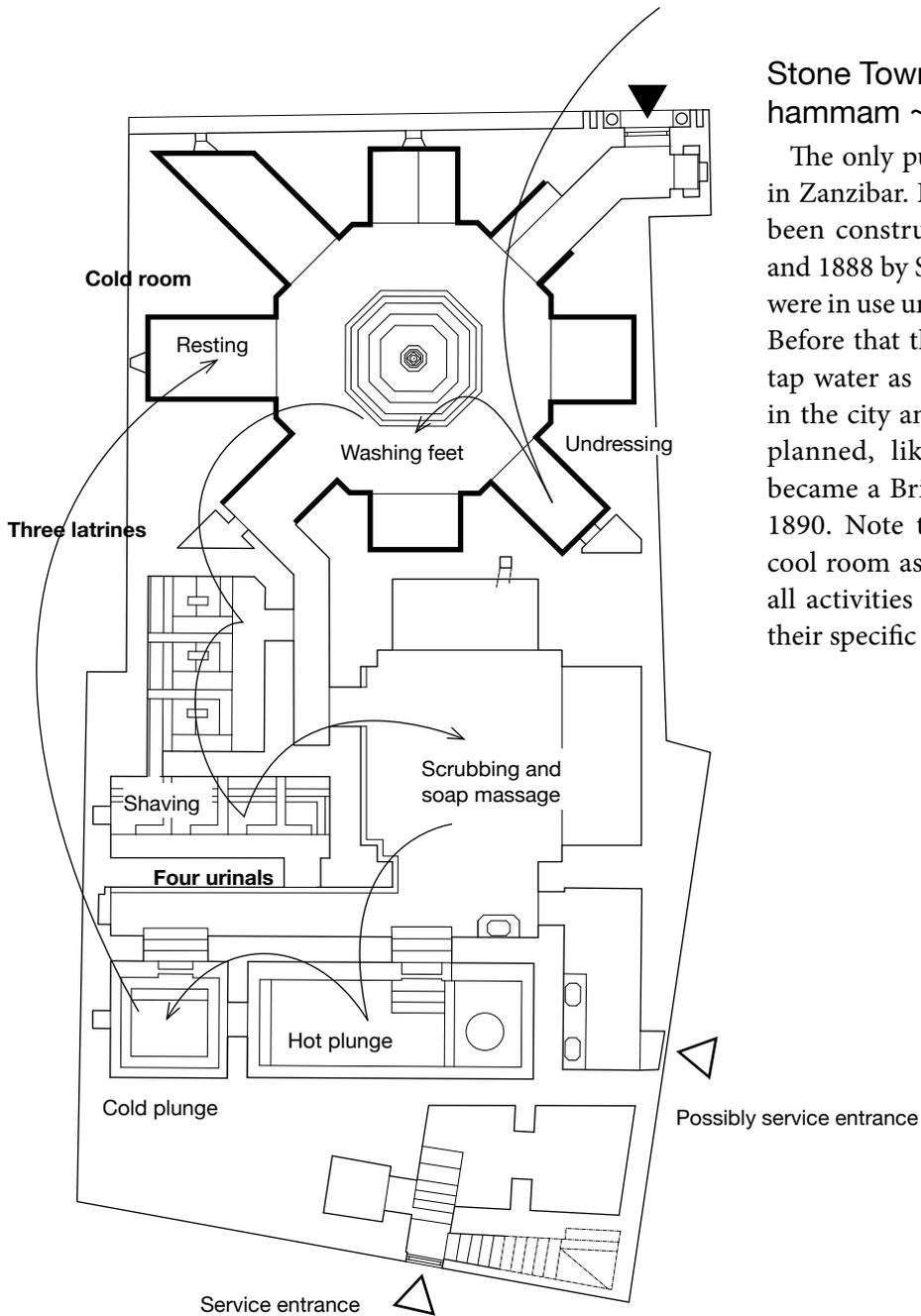
scale 1:200



The warm room of the Persian style hammam at Marhubi palace.



Pit latrine with slanted tile and drain connected to the same outlet. Reminiscent of modern urine separating toilets.



Stone Town public hammam ~1870-88

The only public hammam built in Zanzibar. It is believed to have been constructed between 1870 and 1888 by Sultan Bargash. They were in use until the 1920's or 30's. Before that they were fitted with tap water as pipes were installed in the city and an extension was planned, likely after Zanzibar became a British protectorate in 1890. Note the fountain in the cool room as an example of how all activities have been assigned their specific spaces.



10 m scale 1:200

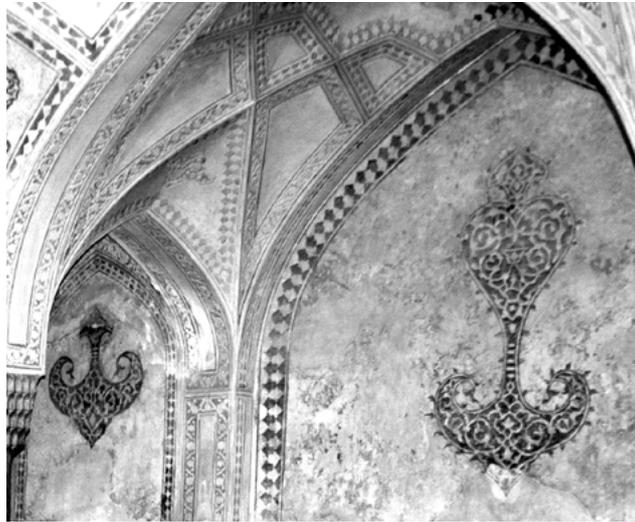
Plan from Farsi, Hamamni Baths - From Artefact to Development Multitool



The cool room with an unusually deep central fountain compared to hammam built in Persia. The regular windows are also an oddity.



Unlike the royal ones, the Stone Town public hammam has an exterior which expresses Persian inspiration.



Where Persian baths would employ graphics, the Zanzibar Persian hammam leant towards a sculptural tradition. This is also the only one decorated of the Zanzibari hammam.

Top: Arg e Karim Khan hammam, Shiraz (Bruce Allardice)
Bottom: Kidichi palace hammam, Zanzibar



All but the public hammam in Stone Town feature a row of five pit latrines. These are the ones in the baths at Maruhubi where there is also a row of five separate baths in combination with the Persian style hammam.



Fetching hot water when the Stone Town Public
hammam was still running.

THE STONE TOWN PUBLIC HAMMAM

Describing a building

I wish to tell anyone who ventures to document a building that it cannot under any circumstances be reduced only to an artefact. Neither should it be understood as a work of art or on the other hand as a mere necessity. A building embodies all of these intentions of human strife. It is in that sense, maybe, that some claim it the ultimate form of creation. That is not the topic of this work, nor is it a way of thinking that I ascribe to. The holistic view however remains an important part of my own view of buildings. Through the artefact, people perpetuate themselves; through the work of art they seek to express themselves and as a necessity it springs from concrete needs. As a whole and in its parts, the building can be understood from these points of view. The craftsman, the owner, the architect. With these things in mind, it is natural to venture backwards not only in the history of the building but of those who were part of it. For this reason, the perspectives through which the building can be read, my work tries to find answers not only to questions of material concern but seeks to tell something about relations to the context.

The description deals with the physical nature of the baths and its state of damage as well as a reconstruction of its original appearance and use. It begins however with briefly recounting the history of Zanzibar

and Old Stone Town as a reference point and furthermore attempts to imagine some sources of inspiration behind the style of the baths.

The purpose of the description is not only documentation but also to serve as input to design. I wish to bring about as full as possible a complexity surrounding the understanding of the building and draw from it in subsequent phases of design. By this I wish to achieve an input including both conclusive and suggestive elements. Background to the conclusive elements such as original color and use are presented in the appendix Building Description.

The descriptions made here are based on an on-site survey (see appendix 2). There is also a photographic documentation available, to assist in reading the descriptions (see appendix 3).



Facade towards Hamamni Street (collage from original photos by Magnus Persson, 2013).



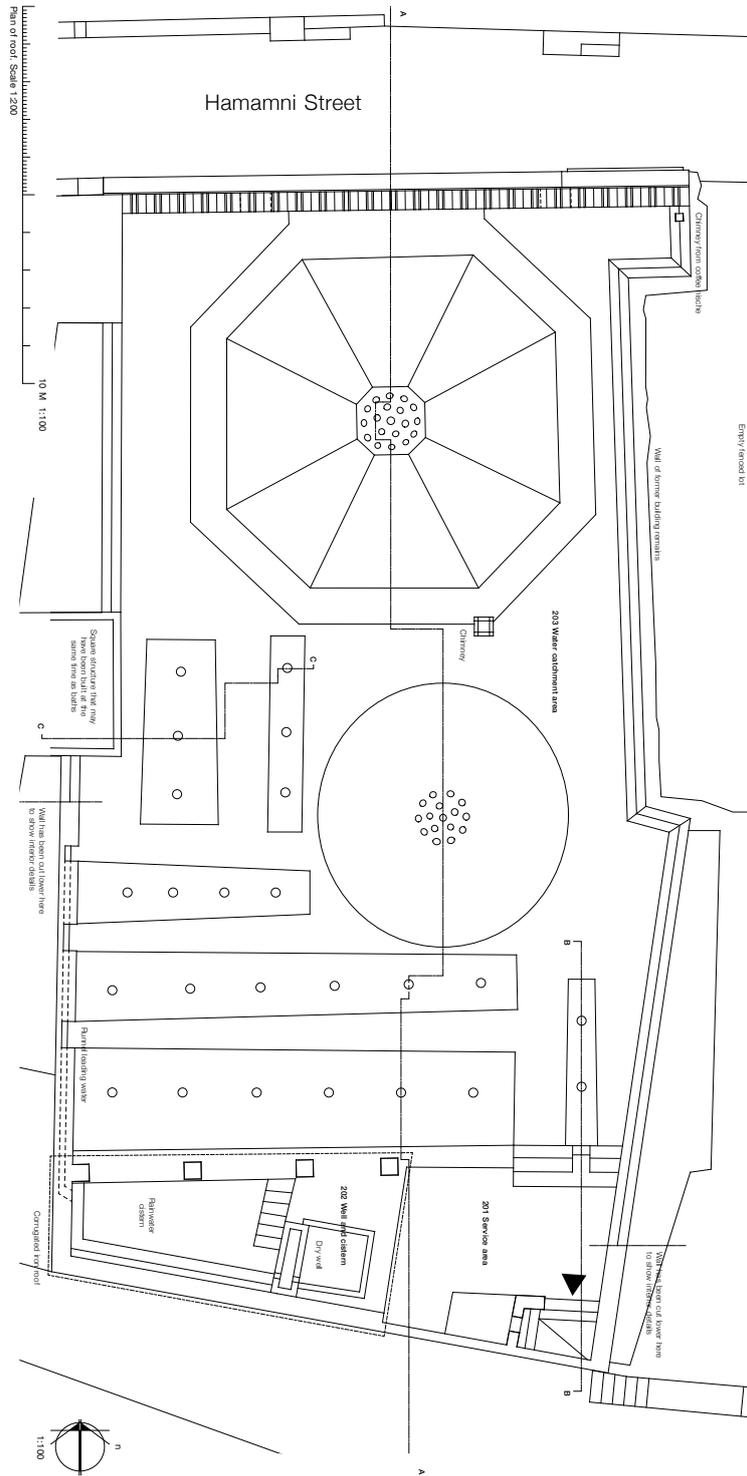
Hamamni Street before the morning traffic



The back street



Rain water collecting roof with the the large cool room dome seen furthest away.



Style and material

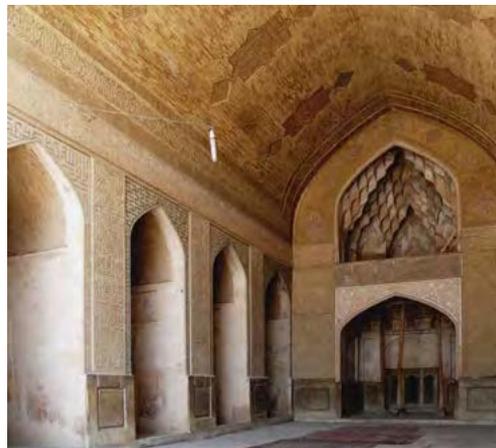
An architectural unicum

Beside the detailed and often colourful Persian baroque of the 19th century the Hamamni baths have an understated decoration (see images to the right). It is perhaps the result of a blending with the Ibadi architecture for which simplicity and a lack of adorning decoration were defining aspects at the time. On the other hand the few decorative elements that were used sets the building apart as a unicum. The red brick corniches towards Hamamni Street are uniquely Persian in an otherwise Arabic architectural setting. The patterned black and white tiling of the interior on the other hand while common in prominent buildings of late 19th century Stone Town is odd when compared to historical hammam in todays Iran.

The use of fired brick is particularly notable since it connects to much older traditional Persian architecture. Although common around Arusha and Morogoro on the mainland fired brick was rarely used in Zanzibar. In old Persian architecture however brick was extensively used in both decoration and construction. While the typical Persian brick was yellow however the brick used here ties the building to the Tanzanian mainland use of red brick. Perhaps this is a glimpse into a creative process where traditional brick decorations that were unfashionable in Persia at the time became a natural source of inspiration for a less colourful style.



Late 19th c. Hamamni Baths, digitally reconstructed.



11th c. Persia, Friday Mosque, Isfahan (seier+seier 2007).



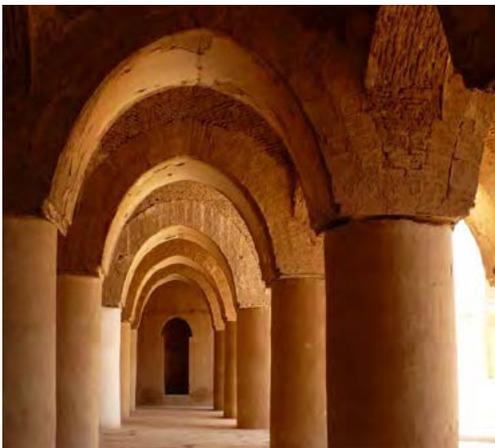
19th c. Persia, Soltan Amir hamam (Mohsen Ghaemi 2008).



Late 19th c. Hamamni Baths, original surfaces.



Late 19th c. Hamamni Baths, brick corniches.



8th c. Persia, Tarik Khana Mosque (Saeidi, M. 2009).



Mid. 18th c. Persia, Vakil Fortress
(Alex O. Holcombe 2007).



18-19th c. Persia Ebrahim Khan baths (Aga Khan Vis. Arc. 2011).



19th c. Persia Ebrahim Khan baths
(Aga Khan Vis. Arc. 2011).

Spatial features

The sequence of spaces

The baths, as any hammam are a fine tuned sequence of rooms with different temperature and pace. You leave the same way you come, tracing your steps back, ending with the cool space of the first room. The most essential sequence is that of heat and detachment from the outside world; from street to the preparations in the cool room (a new cooler setting to relate the coming experiences to) to the heated floor of the warm room and the hot plunge pool right on top of the furnace, then back.

Passages between spaces

The way openings and corridors are designed, only offers glimpses of other interiors even with the doors open. That the 1993 guidebook fails to take doors into account is telling; shape alone would have sufficed as privacy is concerned. The separation of spaces into singular experiences also makes each room its own context. This creates spaces for immediateness. You are here, in this room, now.

Complete lack of pillars

Pillars were widely used in Persian architecture while the Zanzibari, Ibadi counterpart is almost devoid of them. Where pillars were used in Zanzibar before the western influences at the end of the 19th century it was in the form of massive piers. The old mosques of Zanzibar are good

examples of this. The bath house is devoid even of these, since piers are reduced only to massive structures between niches. The massive appearance is also accentuated by the lanterns in Persian hammam architecture as opposed to the countless windows decorating domes of hammam in other traditions. The resulting style is a material space devoid of freestanding elements.

Barazas

Both the cool room and the warm room feature niches for accommodating activity off from the inevitable movement at the centre of the rooms. In Persian these niches are called iwan yet in the Zanzibari context it would seem more adequate to use the word baraza, which is a central feature for the social life around buildings as well as in some interiors.

The word is used primarily for the massive bench outside the door of almost all buildings but can also be used to describe any raised niche for sitting. Frequented barazas usually form strong focal points of social activity and sometimes goes with a coffee vendor in the urban context. While the one by the entrance to the Shia mosque dominates Hamamni Street today the bath has a baraza running along its entire front. Within a building barazas goes with a notion of privacy and are places of repose or of familiarity with those sharing them.



Indirect lighting during cloudy or overcast weather.



Direct sunlight through the cool room lantern.



Velvet light at dusk, just before sundown.



Theatrical lighting in the warm room, a clear afternoon.



Light from the cool room bouncing into the corridor.

Natural lighting

The light shafts and more so the two lanterns create unusually dramatic lighting situations when acting as spotlights in the dim interior. No apparent traces remain of lighting fixtures. Although it isn't uncommon with dimly lit hammam the complete lack of evening light close to the equator would have made an unlit interior difficult to use and some form of artificial lighting would have been used at times. Though no conclusions can be drawn this far, the lack of chandeliers or pendants in traditional Persian hammam could point to portable lamps having been used. The larger rooms have enough light for comfortable use from around seven o'clock in the morning to five in the afternoon, while the smaller spaces are somewhat more dim.

Artificial lighting

Lighting differs somewhat between hammam cultures in terms of artificial sources of light. Generally electric light have been installed but you will still find hammam that go almost dark when the sun sets, giving new attributes to space. There are also examples oil lamps has historically been used. Since no records are available on the use of the Zanzibari ones it's not possible to tell how they were lit other than there are remains of a fitting to hang what would presumably have been a lamp from inside one of the domes of the Mtoni palace hammam. The Stone Town public hammam shows no such traces although it cannot be ruled out that artificial lighting was used. An understanding of the hours of use of

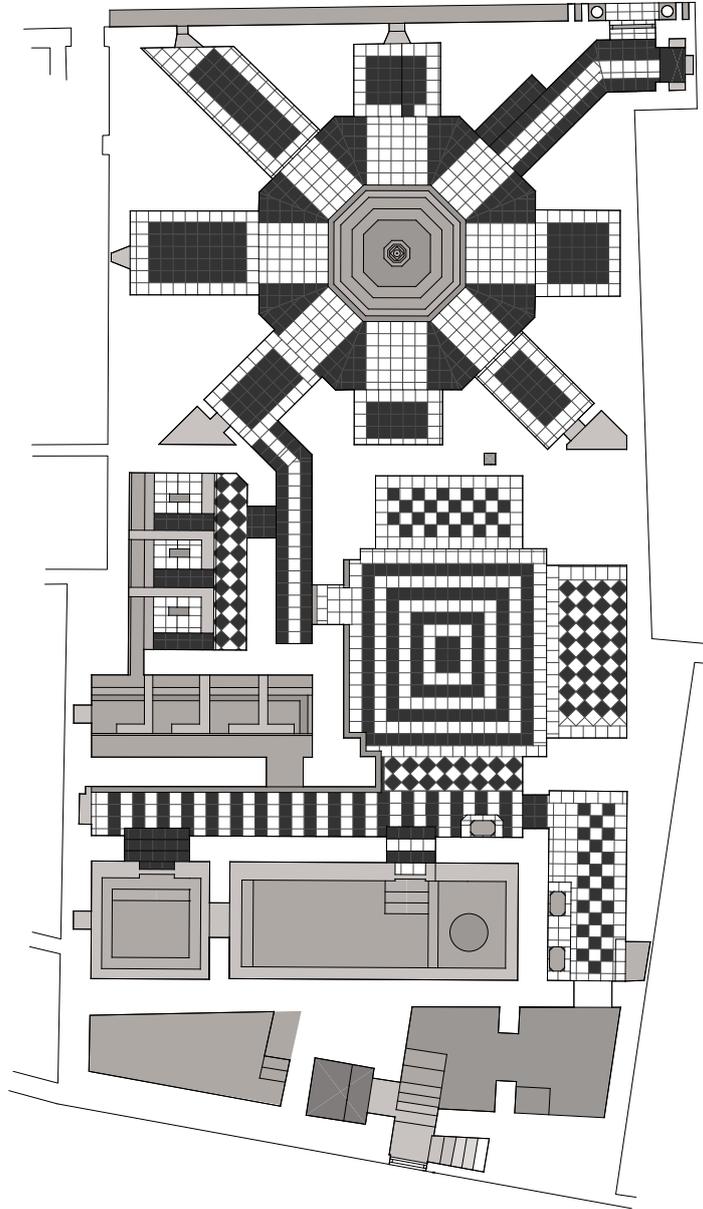
the baths would doubtless be significant in determining this since there is no natural light available at all from around 7 in the evening.

Surfaces

Stone tile floors

All floors within the bathing area except in the urinals are tiled in various patterns of black and white marble. While some hammam of Ottoman style feature inlaid stone decorations of tables the striking contrasts used here and the way the pattern relates to the various scales of spaces is rare within hammam architecture. Tiles measure an average of 321 x 321 mm and a thickness of 17 mm. Deviations in side are less than 3 mm. Tiles of the same type and similar size and tiling were used in many official buildings contemporary with the bath house. The same type of stone was used in the royal baths

of Stone Town and arguably in some other earlier bath houses as well. However sizes vary and in the case of the royal bath at Forodhani tiles are larger. One suggestion has been that stone was imported from Turkey. Technically however the tiles could also have been brought from Persia since marble with the same appearance is available from several areas in Iran. However neither possibility has been confirmed.



Plan showing the layout of tiles and plaster on floors. Scale 1:200

Plastered walls, ceilings and details

The walls of the interior appear with a wealth of paints on top of the original plaster rendering. All walls except those of the service areas have a combination of two tones of original plaster. An

earth coloured lower surface and a cream white one above that. The shift maintains an unbroken line throughout the interior but occurs between 150 and 210 cm above the floor in various rooms, in part because of the varying height of the floor.

The plaster has not been analysed but is either an unusually dense lime plaster or an early type of portland cement. A third possibility is a type of plaster prepared by adding marble or limestone powder to lime plaster in order to give it qualities closer to cement. All hues of the plaster contain particles of coal 0,1-1 mm and lime 0,5-1,5 mm.

Subsequent layers vary but most surfaces include four layers of paints. The first consists of two blue hues where the darker can be traced to the lower parts of many walls and corresponds to a lighter hue that is evident in some ceilings and on upper parts of walls. On top of this are layers of white and cream while the topmost layer is blue on the lower parts of walls except in the cool room. Several facts point to that the first blue paints were applied while the baths were still in use (see appendix). Interestingly, the interior of the Chumbe light house (built 1904) and the royal baths

at Forodhani (built ca 1830- 56) display the same set of underlying plaster and layers of paint.

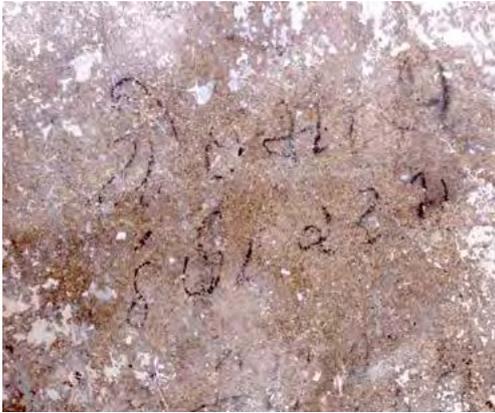
The surfaces of many features inside the bath house, such as the fountain and the partitions of the latrines feature a smooth black layer between the original plaster and subsequent cement washes. It is difficult however to determine whether the black colour was an original feature or contemporary with the addition of blue paints to walls and ceilings. It is easy however to imagine the striking contrast that would have been the result.

Exterior plaster

The exterior walls and the roof were plastered using an almost white version of the plaster used for the inside although the current appearance varies depending on exposure and repairs. One original surface shows traces of at least four subsequent layers of paint. Blue, white, cream and white. It is worth mentioning that many buildings in Stone Town show traces of similar blue paint, suggesting that it may have been part of a major shift in aesthetic ideas. Both the fortress and the Chumbe island light house are prominent buildings where the same type of exterior plaster has been used.

Construction

In common with the majority of buildings in Old Stone Town walls and arches were constructed using coralstone rubble. Often



Writings on exposed patch of original plaster.



Decoration in coffee niche.



Original plaster (white, grey) and cement (around sky light)



Decorative exterior niche by entrance. Note the blue layer.



Close up of original exterior plaster

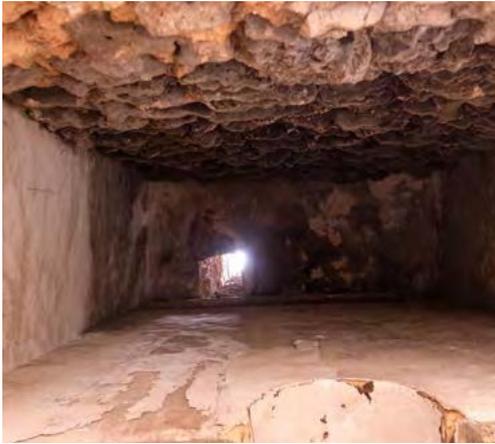


Black paint on fountain (orig. or contemp. with blue layers).

rounded blocks of various sizes were used for walls while flat slabs arranged radially were used to form arches. Exposed rubble confirms this assumption. The thickness of vaults and domes, as much as 80 cm, suggests that a similar technique was used for them. The furnace beneath the boiler is an exception utilizing the same fired brick as the corniches along Hamamni Street. Thus it's likely that brick was used to construct the entire under-floor heating system.

It's said that craftsmen were brought together with the master builder from Persia and the advanced construction and finish compared to other masonry structures on the island supports this claim. Lime mortar has been used and was also the preferred mortar in expensive construction within Stone Town at the time. Where exposed the topmost mortar beneath the plaster has various but mostly light shades of burned sienna. Particles of unburned lime about 1-5 mm are evenly spread together with sand. Particles of coal about 0,5-2 mm are also evident. The roof slab above the service areas is constructed using mangrove poles, boritis, the same way as other roof- or floor slabs of traditional buildings in Stone Town. In short, boritis have been spaced at average centres of 30 cm to support a slab which in this case is between 40 and 60 cm thick. It is difficult to discern without closer examination but traditionally marine coral cut to even tiles has been used to bridge the gaps and cast upon with a lime concrete.

Foundations have not been surveyed. The rule of thumb however is that buildings within Old Stone Town are built on firm sand with foundations that are essentially constructed the same way as the walls they support except wider and sometimes using larger stones.



Exposed coral rubble and orig. plaster in coffee niche



Original plaster, earthen brown and creamy white.



Boriti roof above service areas (113-114).



Intermittent colour scheme, sky blue and light blue.



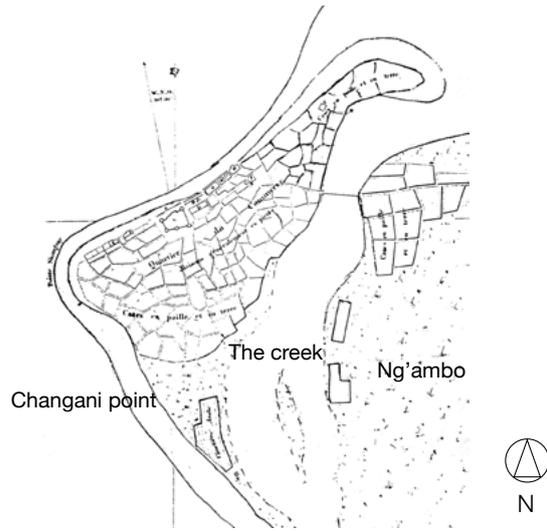
Furnace with opening to underfloor heating system.



Current state. Light blue and white.

Historical context

To decipher anything more than varying dates from the sporadic knowledge and writing available have proven difficult. It is generally stated however that the baths were built under the rule of sultan Bargash Bin Said 1870-1888 and are believed to have been in service until the 1920's or 30's. This time line could be created however of the history of the context and the building itself.



Map of Zanzibar Town 1846
 (After Guillain, Album, 1856, Pl. 9 as repr. in A Sheriff (Ed.), The History & Conservation of Zanzibar Stone Town)

Context

Oldest signs of inhabitants.	Stone Town develops into an urban settlement as a fishing village and an important harbour for Arabic, Persian and Indian traders.	The Portugese claim the archipelago as a trading post.	The Oman sultanate gains power over Zanzibar.	Said bin Sultan rules Oman and Zanzibar. In an attempt to mend peace with Persia he marries the Persian princes Shehrazade and it appears likely that this was the initial reason for the Persian style of the baths of Zanzibar.
20 000 BC	9th century	1500	1698	1804-1856

The baths

Several royal baths are built, combining Persian and Omani bathing traditions.

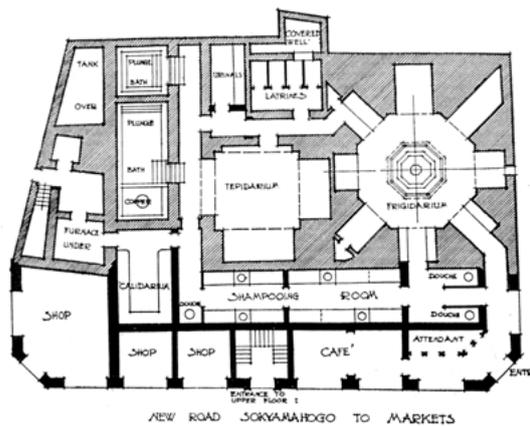


Fig 5 GROUND PLAN OF HAMMAM AS EXTENDED



Map of Zanzibar Town 1977

Planned extension, unknown date

(As reproduced in A guide to Hamamni Baths, 1993)

(Government of Zanzibar as reproduced in A Sheriff (Ed.), The History & Conservation of Zanzibar Stone Town)

Sultan Bargash who succeeded his brother Majid bin Said becomes the second sultan of Zanzibar. His reign is short but one of luxury.

The country becomes independent and shortly after, the revolution installs the revolutionary government of Zanzibar that forms a union with Tanganyika.

1870-1888

Zanzibar becomes a British protectorate.

1963-64

1890

1870-1888

The baths are commissioned by Sultan Bargash to Persian master builder Hadj Gulamhussein, believed to have designed at least one of the palace baths as well (A. M. Juma, 1993).

1920-30

The baths are closed but are later to be exhibited as a tourist attraction until the revolution.

An extension is planned but the idea is abandoned.

Late 1980's

Repairs are made and the baths reopened as a museum

2000

Stone Town is listed as a World Heritage Site.

2014

Once again the baths are in a state of disrepair. At least one standing proposal for active use by a local firm.

Use of the Stone Town Public Hammam is believed to stretch from 1870-88 to 1920-30.

Water and waste

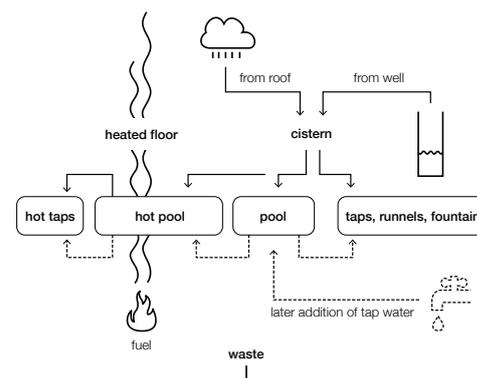
Understanding how water was supplied and removed is crucial in taking correct restorative measures. However several changes have been made over the years, making the water supply system difficult to overview. Yet the standardized components of a piping system often hold clues to the history of a building and this is no exception. One such example is the use in one section of the system of parts manufactured after the 1940's, which is believed to be well after the time when the baths were ultimately abandoned. Many pipes appear with various signs of work around them, ranging from those with several layers of subsequent paint (either crude original work or most likely early alterations) to patches of cement (most likely later modifications or crude repairs) or open holes. A picture can be assembled on the whole of an original system and later alterations but will remain only a probable guess until further studies can be made.

Original well and rain water harvesting

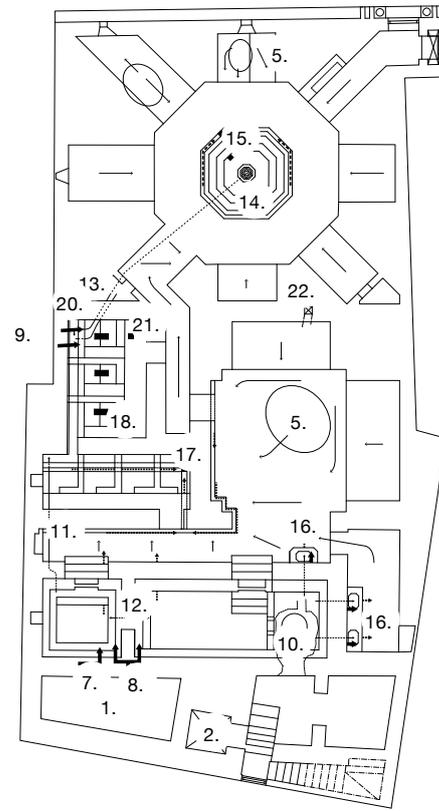
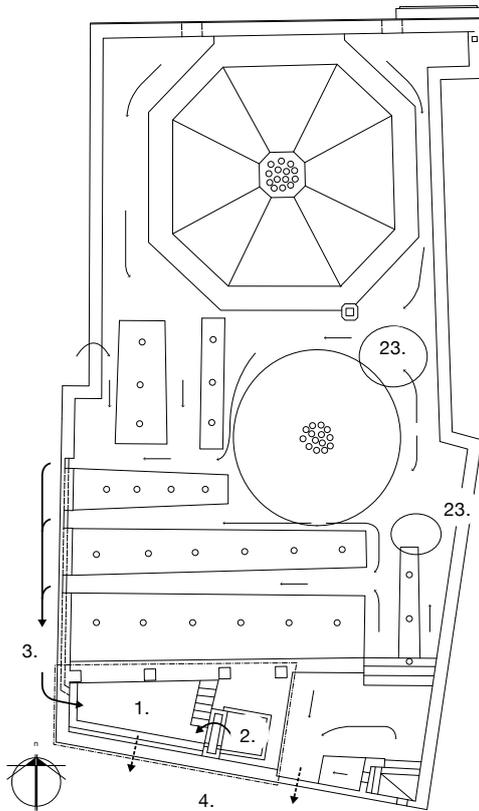
The baths were designed to receive water from rain water and at least one well - the one accessed from the back entrance (see nr 2). Water was drawn from this well to the cistern (see nr 1) and most of the roof functioned - and still does - as a catchment area for rainwater which was lead to a runnel ending above the cistern (see nr 3). Over a month the 325 m² catchment area collects between 6500 and 104000 litres of water

depending on season. The cistern itself has a capacity of around 20 000 litres ¹. Traces of an instalment suggest that a pump has been used to draw water from the well but further studies, not least finding applicable comparisons to the system, are needed in order to reconstruct the equipment used - if any (see nr 2). The 1993 guide to the baths mention a second well and the most likely source for this are indications of it in early plans for an extension where a covered well is marked out (see nr 9). If it existed, it may explain the square structure integrated in, though not accessed from, the building midway along its western side. Full access to the adjacent building would be required to determine whether any traces remain of a well.

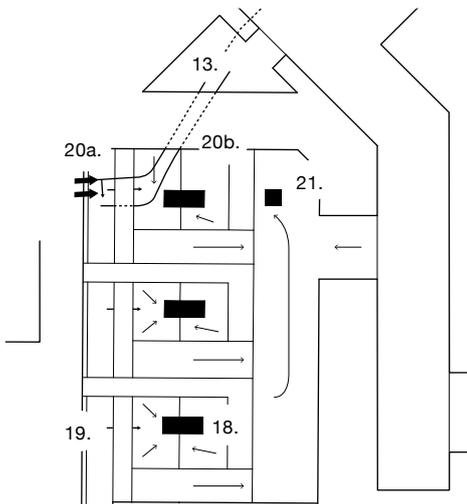
Judging from the style of taps and the function of later additions, the pools were filled individually from the two identical brass taps on Ø 50 mm iron pipes (see nr 8). The rooms with latrines and urinals were



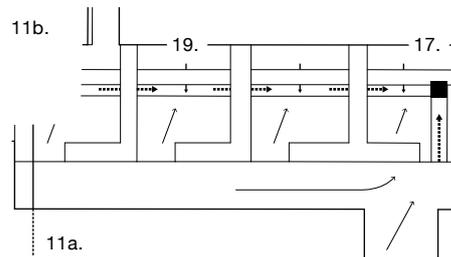
Schematic of orig. water, heating and waste systems.



Plans of roof and interior. Arrows indicate direction of drainage. See text for details. 1:300



Plan of latrines. See text for details. 1:100



Plan of urinals. See text for details. 1:100

served with water from the cistern and what remains is a Ø 35 mm iron pipe cut flush with the wall (see nr 20). Water was drawn from the heated part of the hot pool (see nr 10) to the three basins (see nr 16) which were also served through the uppermost taps with cool water drawn directly from the cistern. The pipe ends are all Ø 45/23 mm brass and one brass tap remains. The locations of the pipes translate to 45 cm above the bottom of the boiler for the basin in the corridor and 70 cm for those in the service room. In a similar way water was drawn from a runnel to each of the latrines and urinals for washing. Only the Ø 10-15 mm brass pipes remain (see nr 19).

The original piping to the fountain (see nr 14) is difficult to trace though it was most likely either connected directly to the cistern or via the runnel along the latrines. Only in the first case would the pressure have been enough to create a fountain.

Addition of tap water

When tap water was introduced, new pipes were installed, carrying water to and within the building. The scenario that appears most probable is that water was added to the cold pool via a Ø 35-45 mm iron pipe to which a brass tap is still fitted. Water was drawn from there to the hot pool via a Ø 68/64 mm brass pipe set between the pools near the brim. Water was also drawn through a Ø 70/80 mm iron pipe to the runnel serving the latrines and urinals from where it was taken further to the fountain (see nr 11).

Later additions

A relatively new Ø 20 mm iron pipe has been set next to the cut-off older one previously serving the runnel and transfers via a brass t-coupling to a Ø 35 mm iron pipe (see nr 20). which is then connected to the fountain via a brass valve and a continuation of the same type of iron pipe (see nr 13). An open bend is connected to the t-coupling above the runnel. Some of the parts used bear the British standards Kitemark symbol, which wasn't used on piping before the 1930's, which may have two explanations. Either the baths were in use well into the 1930's despite claims in the 1993 guide that their use ceased during the 1920's or it was later fitted for display.

Drains, outlets and sewer

A sewer was built to pass under the bath house and at least three outlets connect to it (see nr 15, 17, 21). The way water drains from or across floors reveals many details of how the baths functioned and even gives some hints as to what various surfaces were used for. Most notably, the way water was used in connection to and drained into the latrines contradicts what the 1993 guide book says about these being pit latrines (see nr 18). Designed to take water, it is more likely that the latrines were in fact connected to the sewer rather than manually emptied¹⁰. Both the three basins and the two pools drain directly to the floors. The water then drains via the runnel in the inner corridor to the outlet by the urinals (see nr 17). The outlet itself appears to be leading backwards along the urinals and further examination

may hint at the layout of the sewer. The cistern and service area of the roof both drain individually to the street.

Heating

Heating was done using a boiler placed above the furnace and through a system of flues running under the floor of the warm room, from furnace to the chimney (see nr 22). The system has not been further studied.

State of repair

All in all, the entire technical system is in bad shape because of removed parts, corrosion and patched-over pipes. Further examination would be needed to determine whether parts of it can be restored to an original function by relining or by similar methods. However enough details remain for a partial reconstruction of both history and actual fittings such as taps (see for example nr 16). Its interesting to note that both taps serving the cold pool still holds water. Although the source isn't clear since the pipes leading from the cistern appear to be covered, drops hang from the taps and there are signs of water having trickled over a long time both from these taps and the one serving the hot pool. The catchment area of the roof have only minor patches where water will stand still (see nr 23). Cement repairs have been made in several places. Neither layout nor the state of the system of flues heating the warm room has

been studied. However none of the ends appear to be blocked, allowing for a camera to be used in a future survey.

Notes

1. The effective catchment area today totals 325 m². The monthly precipitation varies between 20 and 320 mm, dropping under 50 mm only between July and September. The monthly collection of water therefore varies between 6500 and 104000 litres, though only dropping below 16000 litres three months every year. The average annual precipitation is 1400 mm, or more than 450000 litres collected from the roof. (weatherbase.com/weather, accessed 14-09-02).
2. Undisputable pit latrines in other baths across the island do not feature running water, which would have made emptying difficult, seeing that the wastes would become fluid and less easy to gather and transport. On a side note, the latrines at Maruhubi even have a urine separating feature which would have given the opposite effect, making the handling of waste easier.



11 b.



13.



20 a.



20 b.



8. Hot pool side original tap.



8 and 7. Cold pool side orig. and later tap respectively.



16.



14.



16.



11 a. Pipe from cold pool to runnel (seen from urinals).



18.



17.



10.



15.

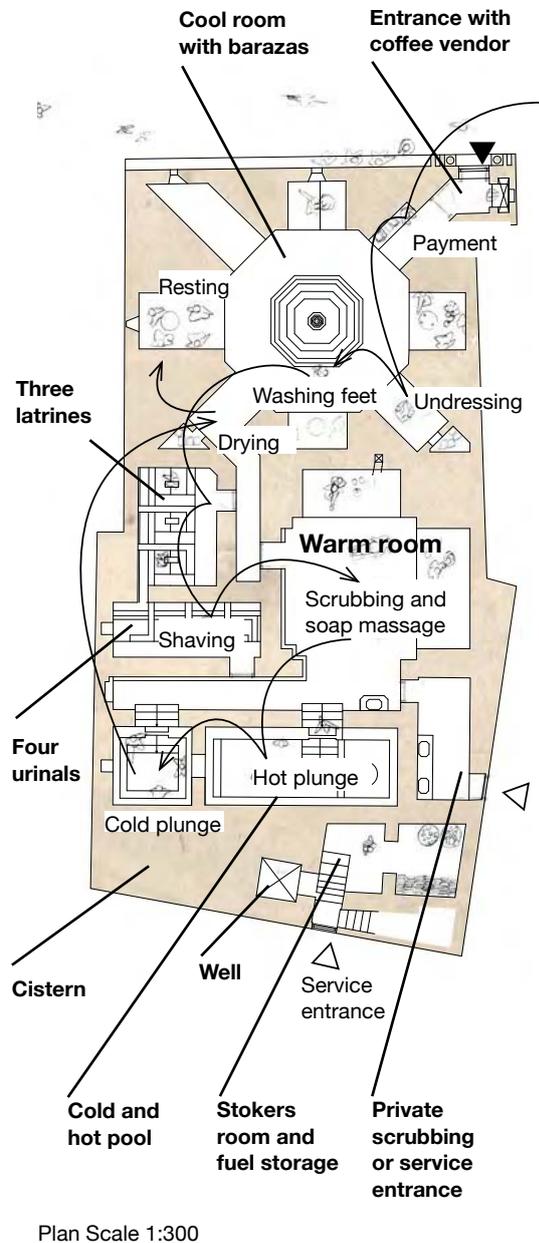


12. (pipe between pools seen to the right).

Original use

Some original features of the baths have already been mentioned in the 1993 guide and some come across as obvious but in seeking a more complete and traceable interpretation I have gone through the many perks of the building and defined a set of functions ranging from the taps supplying water in the room of the toilets to the evidence of a bazaar-like sunscreen providing a leisurely shade along to the street along the entire block. The result is the following plan and section displaying the various original activities.

One of the most important uncovered features are the six interior doors having been removed. They were low, between 180 and 190 cm high, with wooden panels above and swung into the deep passages rather than out into the rooms. A feature that sets the bath house apart from its Persian origin is the immersion pool of the cold room which is deep enough to climb into. Its counterparts in Persia were less deep and used in most cases for cupping water from to wash ones feet. There are also peculiarities yet to be explained, such as the narrow steps in the hot immersion pool up towards the opening between the two pools. It is unlikely that the opening was used to move between the pools yet the steps are not deep enough to use as benches and defies other explanations.



SITE ANALYSIS

The context

The zoning of the context reveals the baths at the centre of a largely residential area surrounded on two sides by mostly tourism oriented areas, on one side by the emerging central node New Mkunazini street and on the third side by a busy commercial area towards the Darajani Market.

The various tourist attractions south of the area and the tourist streets to the north and west would appear to be linked by the old hammam if it wasn't for the fact that many guides pass it without mentioning it more than with a gesture of a hand or not at all. The existence of the arts centre and the wood workshops could speak for it but it is difficult to discern whether the bath house attracted these functions and the guides or if they appeared because of available large spaces for rent or perhaps because of the location between various other attractions.

An historical perspective

In a historical perspective, it is interesting to note the evidence of sunshades along the stretch of Hamamni Street defined by the bath house block. That these remains are not visible along other streets in the area suggests that the place of the baths, Hamamni, was or was intended to be a local node.

At a first glance it appears as if there is a trend of growing tourism in the area. At least one new tourist oriented shop and workshop was added to the Hamamni Street during the previous year. Studying maps of tourist activities from past years further reveals that the stretch from the important node Jaws Corner out through New Mkunazini Street (and incidentally towards the baths) has become more frequented by tourists, possibly also pointing to an increasing tourism in the area.



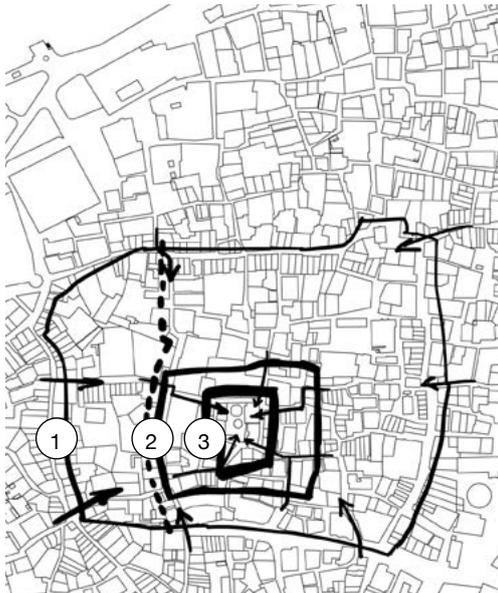
The Old Stone Town

Area definition

1: Area defined as mostly residential and bordered by other defined areas. (the western part interacts mainly through Hamamni Street and does not come across as part of the area around the hammam).

2: Connecting streets and blocks and likely where visual contact could occur between the hammam and other buildings.

3: Immediate physical context where any function could be referred to as close to the hammam.



(Maps from Zanzibar Department of Urban and Rural Planning 2013)

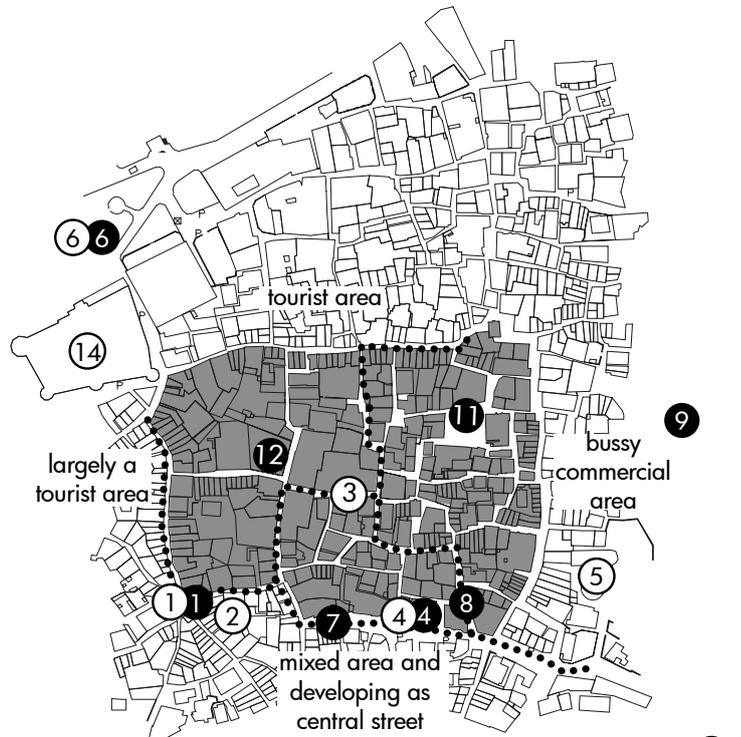
Zoning, important functions and tourism in the context

- 1 Jaws Corner (a popular site for coffee, politics and game playing) and thus a must on all guided tours.
- 2 A particularly spectacular door which is a popular stop on guided tours.
- 3 Hamamni Street with the baths, Arts Centre and tourist shop as well as a shia mosque and a small local vendor.
- 4 Lukmaan restaurant, popular among locals and tourists alike.
- 5 The Anglican Church and remains of a slave market. Very popular tourist site.
- 6 Forodani Garden, used by both tourists and locals, not least during the night markets.
- 7 New Mkunazini Street, a busy street with its own night market mainly used by locals.
- 8 Business street currently expanded with new permanent shops.
- 9 Darajani Market, one of the main markets of Zanzibar City.
- 11 One of the largest squares in the old Stone Town, used as a school yard by several schools.
- 12 The large Hamamni School.
- 13 Large park.
- 14 The old Fort, used for events and displaying souvenir merchandize.

 Observed paths of guides passing Hamamni street.

 Tourist attraction

 Resident oriented meeting point or attraction. See also the zoning presented here and the list of functions on a neighbourhood level. The functions noted here reflect my own observations and have not been confirmed.



Scale 1:6000

(Map from Zanzibar Department of Urban and Rural Planning 2013, information based on map from *Intentions and Reality in Architectural Heritage Management*, Syversen 2010, and new on-site observations.

Movement and activity in the area

The zoning map further explains where and what activity it is that attracts the movement. Homes, mosques and schools feed the area with movement to and from it as well as internal movement while its context within Old Stone Town also generate movement across it.

The traffic in the area seem to be attributed in part to a west-east motion, with the traffic along Hamamni Street also spreading to the north and into the blocks around D. This combination could help explain what at a first glance on the context seems to be an inproportionate amount of traffick along hamamni street.

I first guessed that there would also be diagonal traffic between south west and north east because of the congested character of the surrounding streets. However the lack of traffic at A, B and C suggests otherwise. The streets around D does not show much activity in relation to other streets but most the activity here is slow pedestrian traffic rather than shops. The result is that these block as a whole comes across as lively.

Motorized traffic can be seen much more on Hamamni Street than other streets inside the area and spreads mostly along the north- and eastwards arrows on the map. Motorized traffic most likely indicates through fare again the lack of traffic at A and E raises questions about which locations it moves from and to in a larger context.

New Mkunazini Street should also be noted as one of the entry points to the Old Stone Town and a place where both people and goods arrive that wants to get closer than the parking spaces around Darajani.

The neighbourhood

The blocks around the bath house are predominately a mix between residential and religious use together with a set of local commercial functions. Compare with the map of ownership, revealing many residential buildings to be owned by religious organisations. The general picture is of a mixed area with mostly local functions.

The general picture is of a mixed area with mostly local functions.

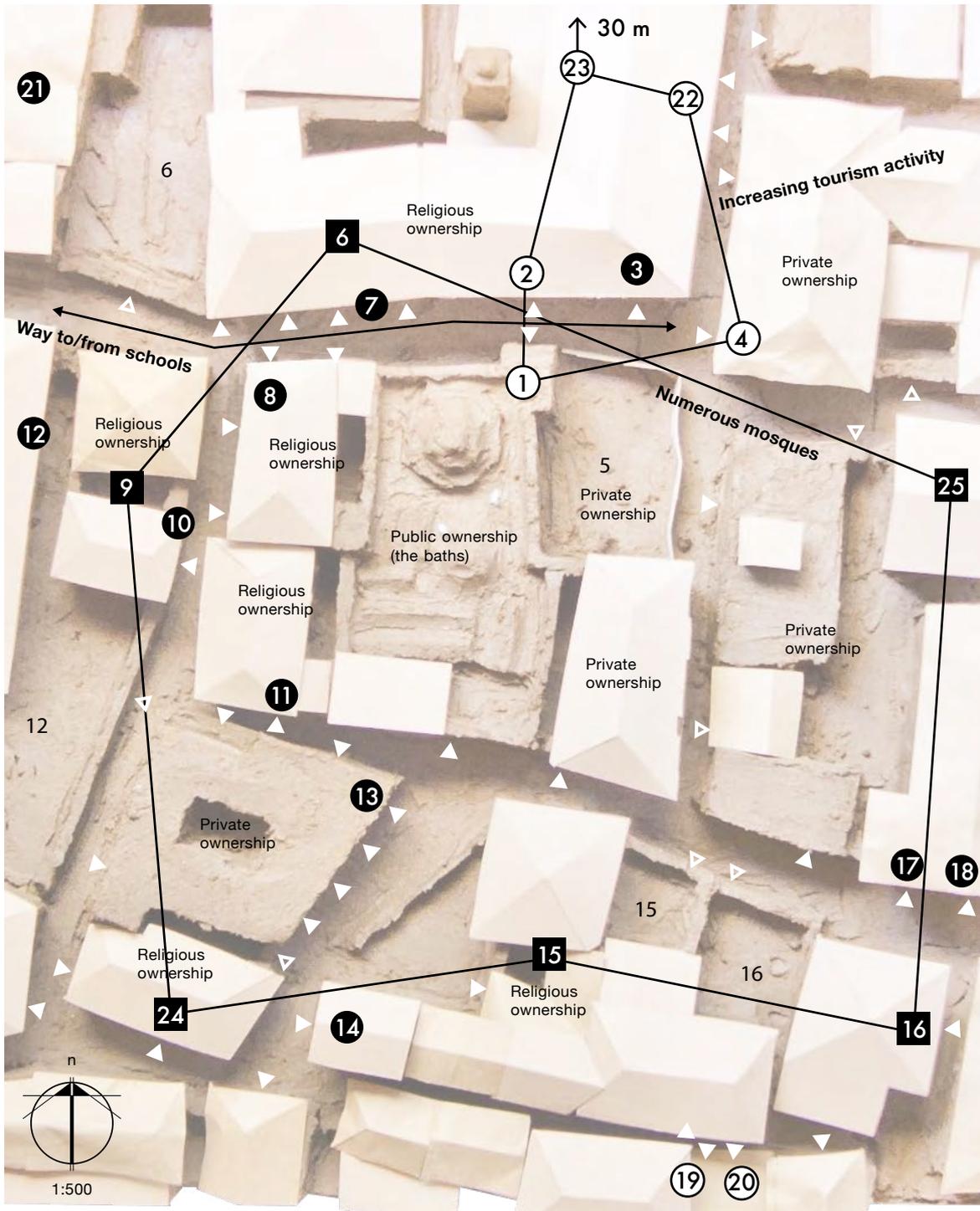
Comparing the set of functions from what I observed one year ago, it appears that the number of tourist oriented activities have increased slightly. The Womens Hope shop and workshop has opened and the woodworkers appear to expose their wares more. One of the buildings that used to be residential has recently been refurbished to house a meeting hall for the religious group Bohora.

The placement of the bath house would have been strategic at its time, in connection with numerous mosques where one public function could benefit the other. This does make an interesting case for the future of the bath house and counts towards a use including the original traditions rather than a spa only with modernized functions, at least from the perspective of engaging local and regular users. The assessment of use was done during a walk round the block, with complementary information from older ownership maps (Syversen 2010) and stakeholders in the area. The data should

therefor be fairly accurate but has not been crosschecked for every building or directly related to any exact proportions in mixed use.

The historical perspective

What could the area have been like at the time that the baths were built? Providing a description of the history of the area has proven difficult. A closer study of building record might shed some light on the chronology of construction but bits and pieces retold by residents suggest that the baths (1870-1888) are among the older buildings around and that several of the mosques were constructed in the same period, between the mid and late 19th century.



Overview of use and ownership in the neighbourhood.

Functions around the building

Key to overview:

- 1 The Hamamni Baths
- 2 Zanzibar Arts and Crafts Centre
- 3 Print shop
- 4 Women's hope workshop
- 5 Empty site
- 6 Mosque (Shia), burial ground.
- 7 Tap. Open at certain times only
- 8 Shop, food stand. Serves coffee.
- 9 Hamamni Mosque
- 10 Tap at mosque
- 11 Juice maker
- 12 School, school yard
- 13 Barber
- 14 Textile workshop
- 15 Mosque (Ibadi), burial ground
- 16 Mosque (Gemenite origin), burial ground
- 17 Pharmacy
- 18 Unadvertised office
- 19 Hotel Zanzibar Lodge
- 20 Shop
- 21 School
- 22 Wood workshop
- 23 Handicraft Garden (wood workshops)
- 24 Meeting place (Bohora)
- 25 Mosque

▶ Entrance

▶ Entrance to yard

① Tourism oriented

● Resident oriented

■ Religious use



1. Hamamni Street, eastward view.



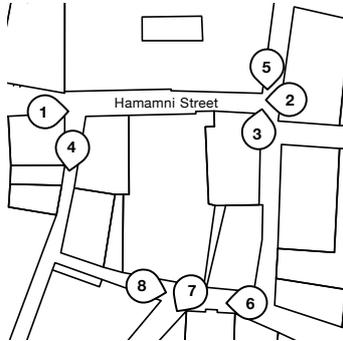
2. Hamamni Street, westward view (the baths to the left).



3. Left turn from the end of Hamamni Street, northward view.



4. Alley extending southward from Hamamni Street.



5. Right turn at the end of Hamamni Street, southward view.



6. Junction by the back of the baths, westward view.

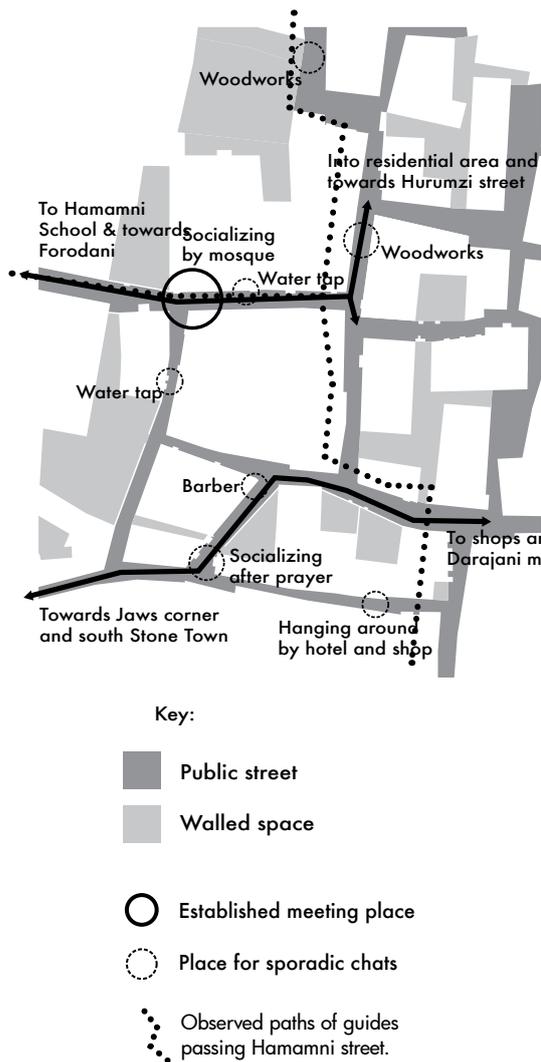


7. At the junction by the back of the baths, southward view.



8. At the junction by the back of the baths, eastward view.

Movement around the site



Hamamni Street

Hamamni Street is well used, it appears to be partly as a function of the local layout of streets, making it one of the most convenient ways to pass the area. It also lies close at hand to interpret that its existing functions offers a pleasant ambience on the way somewhere or a chat with one of the several people that populate the street as an effect of it being their working place. The attendant of the bath house, the shopkeepers, the permanent visitors of the baraza across the shop and sometimes the artists arriving or leaving the art centre. The general picture is of a busy but not crowded street.

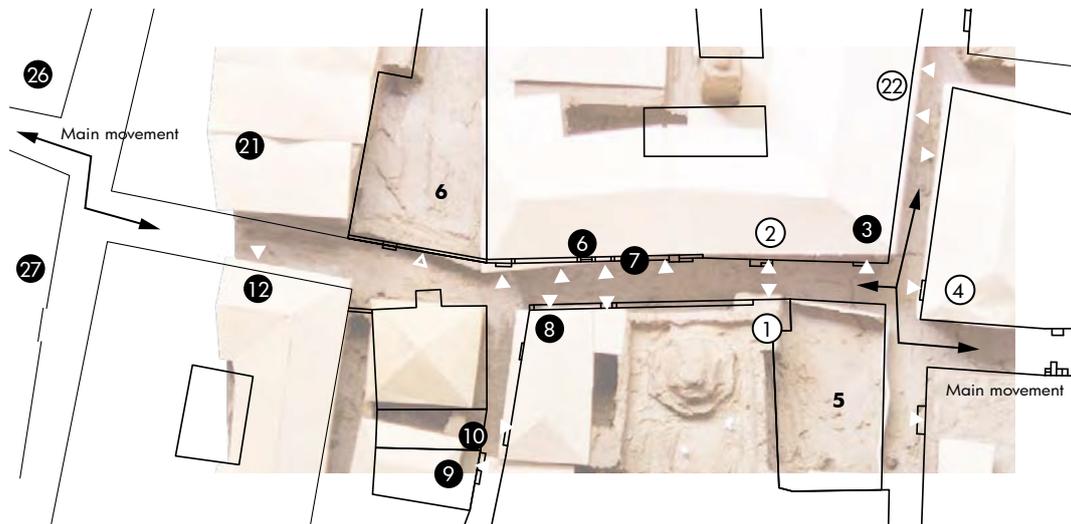
Various groups of people pass the street daily, both residents and tourists, grown ups and children. However much fewer women do than men, which I believe to be attributed to the custom of women staying largely indoors while men carry out the tasks and social activities associated with the public realm.

Already being an active street, and with the arts centre talking about expanding their activities in the future, it appears as if it might become a node in the area even without the addition of the bath house.

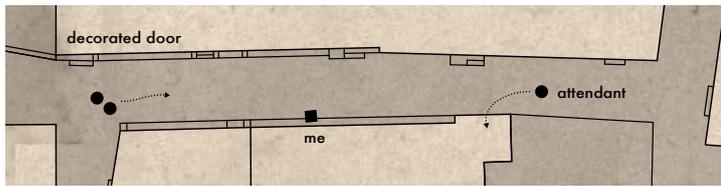
The amount of people passing the street has not been compared however to other streets in the area or in similar settings elsewhere in Old Stone Town. Neither have origins and destinations been acquired due to the short time in which the study was made.

Overview of Hamamni Street

Not to scale

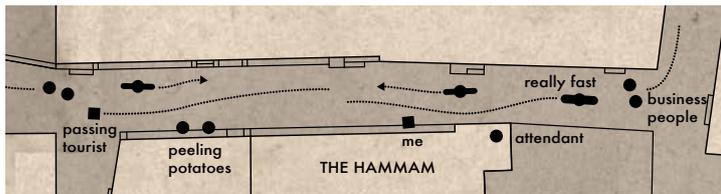


- | | | | |
|---|--|----|--------------------------------------|
| 1 | The Persian Hammam | 9 | Hamamni Mosque |
| 2 | Zanzibar Arts and Crafts Centre (10 years) | 10 | Tap |
| 3 | Print shop (since 3 years) | 11 | Printed sign saying Maker of Juices. |
| 4 | Womens hope shop and workshop | 12 | Skuli Ya Kajifichen and school yard. |
| 5 | Empty site (since 2-3 years) | 13 | Barber. |
| 6 | Mosque (Shia) and burial ground with monuments. | 21 | School |
| 7 | Tap. Open at certain times only | 22 | Wood workshop |
| 8 | Shop with small food and pastries stand. Serves coffee around prayers. | 26 | Hamamni School |
| | | 27 | Candy and paper shops |



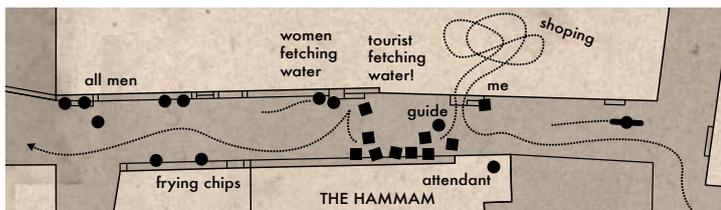
Thursday morning 8:30-9:30
 One tourist had a guide, both tourists pass the baths.

Passing by during one hour:
 Tourists: 2
 Women: 51
 Men: 185
 Children: 26
 Vehicles: 46



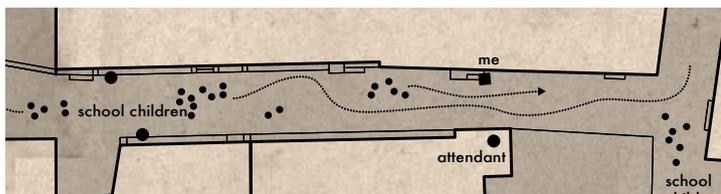
Thursday noon 11:30-12:30
 Two groups of tourists had guides, 2 visitors came to the Womens Hope, 6 to the Arts Centre, 2 to the baths.

Passing by during one hour:
 Tourists: 26
 Women: 74
 Men: 238
 Children: 82
 Vehicles: 86



Thursday evening 17:30-18:30
 Two groups of tourists had guides, 2 visitors came to the Womens Hope, 6 to the Arts Centre, 2 to the baths.

Passing by during one hour:
 Tourists: 27
 Women: 66
 Men: 186
 Children: 74
 Vehicles: 45



When schools close (in this case, 13:30)
 154 people, mostly children pass the street during a few minutes around one o' clock.

Not to Scale.

A day on Hamamni Street

The street was studied specifically at four occasions. The scenarios that unfolded suggest that the stretch of Hamamni Street passing the baths is indeed busy. The first three occasions lasted exactly one hour each during morning, noon and early evening. A fourth observation was made over the course of a few minutes at one o' clock, when schools close on a regular day.

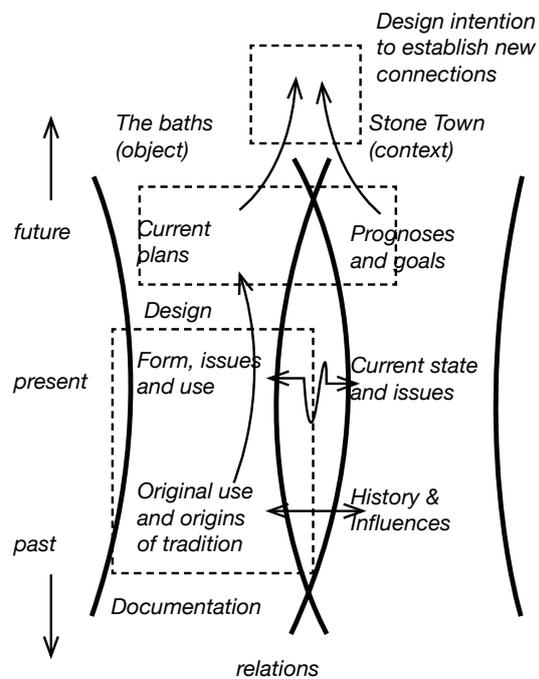
SYNTHESIS

Outline of the concept

Design of the proposal has been carried out partly before and mostly after the full description of the building. Many parts of the design has been based on conclusions from the building description, from the uncovering of original colours to the shape of taps for water. Many of these choices are based on a balance between the original, and a wish to also tell the story of the building such as from earlier modifications. The treatment of the walls is an example of this, where the original plaster has been deemed the best choice for the entire building instead of a mix, describing the various colour schemes that have been used. What ultimately speaks for the original plaster is that it is very well adapted to the wet environment and easy to clean, as opposed to almost all subsequent layers of paint and concrete.

Furthermore, the design connects back to the design guide lines that were set up in the 2013 pre-study and these are presented here again, as a background.

The proposal for alterations and additions is presented over the following pages in floor plans, a section and a number of example details.



The first visualisation of the design sources after the pre-study. Research in object and context to support a new merge of the two after a long period of weak relations.

Design criteria (draws from pre-study)

Focus 1 Heritage

Focus 2 Tourism and identity

Need

A built heritage open and accessible to a wide variety of groups, self sustaining but retaining its historical values.

Activities for tourists that simultaneously build on and diversify the contemporary culture of Stone Town.

Criteria

Experiences at the bath and the perception of it as an artefact should create an understanding of original use.

All restorations should be made with an understanding of and as far as possible use of original techniques to avoid technical damage to the building.

Restorations should be indistinguishable to preserve the historical authenticity of the building and additions should be distinguishable to allow an authentic understanding of the building.

Supply new functions relating to existing non-tourism activities in the area.

Have aspects that are accessible to the neighbourhood.

Have a management model supporting collaborations between commercial and non-commercial actors.

Goal

Visitors of the baths are immersed in the currents of history and gets a will to experience more of the many layers of history surrounding Zanzibar Stone Town.

The building as a physical part of the World Heritage is secured for future generations but also made more accessible. Its importance as a link to the dynamic past of Zanzibar Stone Town is strengthened through the addition of activities.

The area and in the end Stone Town gains strength and attractive qualities from diverse culture and activities. Visitors of the baths gets a will to experience more of the multi- faceted reality of Zanzibar.

The baths turn to more than one user group and contributes to a growing variety of cultural and commercial activities.

Focus 3 Maintenance and funding

Sustainable funding of restoration and maintenance of protected buildings supporting growing expertise.

Cater for enough paying visitors to sustain running costs and maintenance.

Integrate public or community functions to attract diverse funding.

Have a maintenance model that connects on site expertise to the building.

Alterations and additions do not interfere with long term economically feasible maintenance or requiring extensive use of technology and/or installations.

The restoration, maintenance and running of the bathhouse is made resilient in terms of economy, by balancing external funding with commercial activity and a variety of channels for resources and expertise.

Focus 4 Sustainable use of resources (Changed from “A call for using rainwater”)

Promote the use of rainwater and provide an understanding of issues related to water scarcity and distribution.

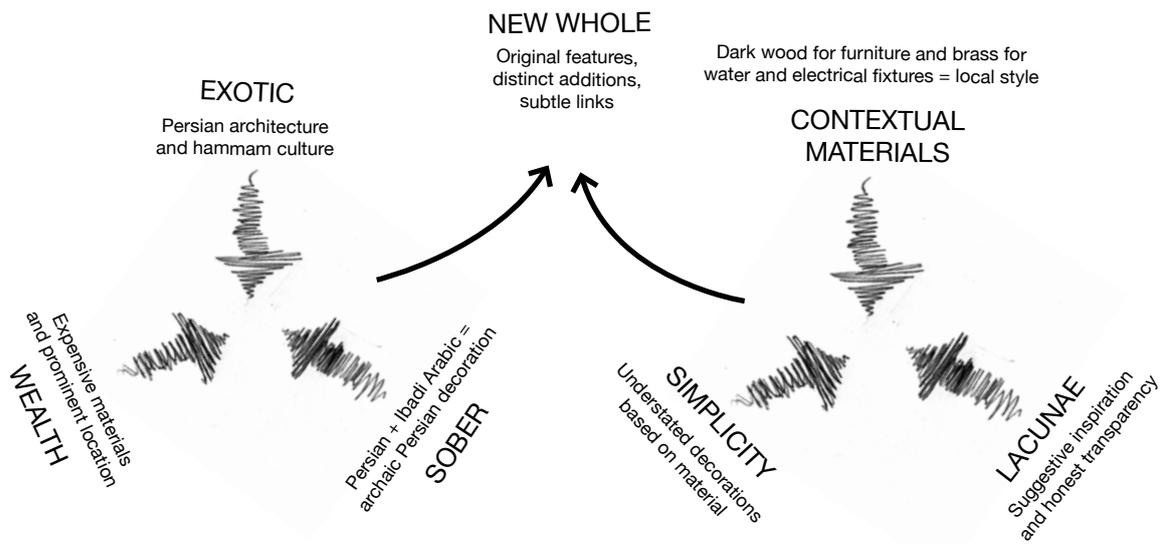
Sources and processes related to water, waste and energy are clearly distinguishable.

Relates rainwater to tap water in a way that is true to qualities of both sources.

Shows the benefits of the pipe network to support the notion of paying for a valuable service.

The way the building is used contributes to an understanding of issues related to water, energy and waste on Unguja. Specifically it explains the issue of water scarcity and promote the use of rainwater as a complement to tap water for sanitation.

Structuring Design Concepts



Inherited design

An interpretation of original design concepts behind the neither Persian nor Omani but hybrid style.

The interpretation is built on comparisons with Persian baths, the royal Zanzibari baths and comments from historians familiar with the implications of Ibadi tradition to architecture and decoration.

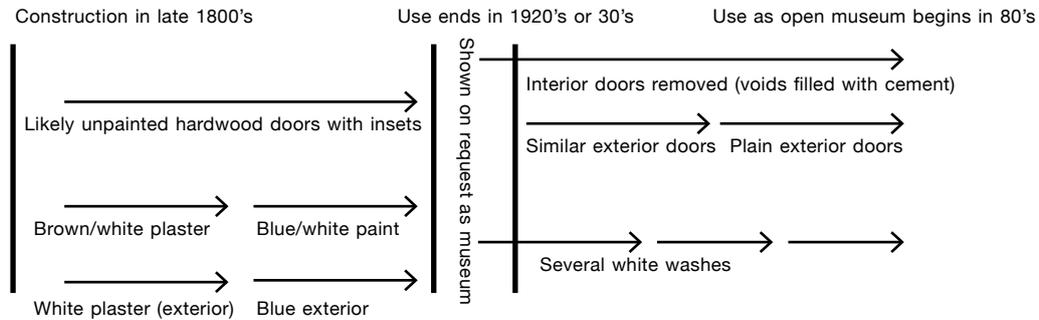
New driving concepts

A set of concepts to be applied to the thinking behind new additions, while the actual solutions are measured against the previous design guide lines.

The model was created in part as a bridge between the original design and my own.

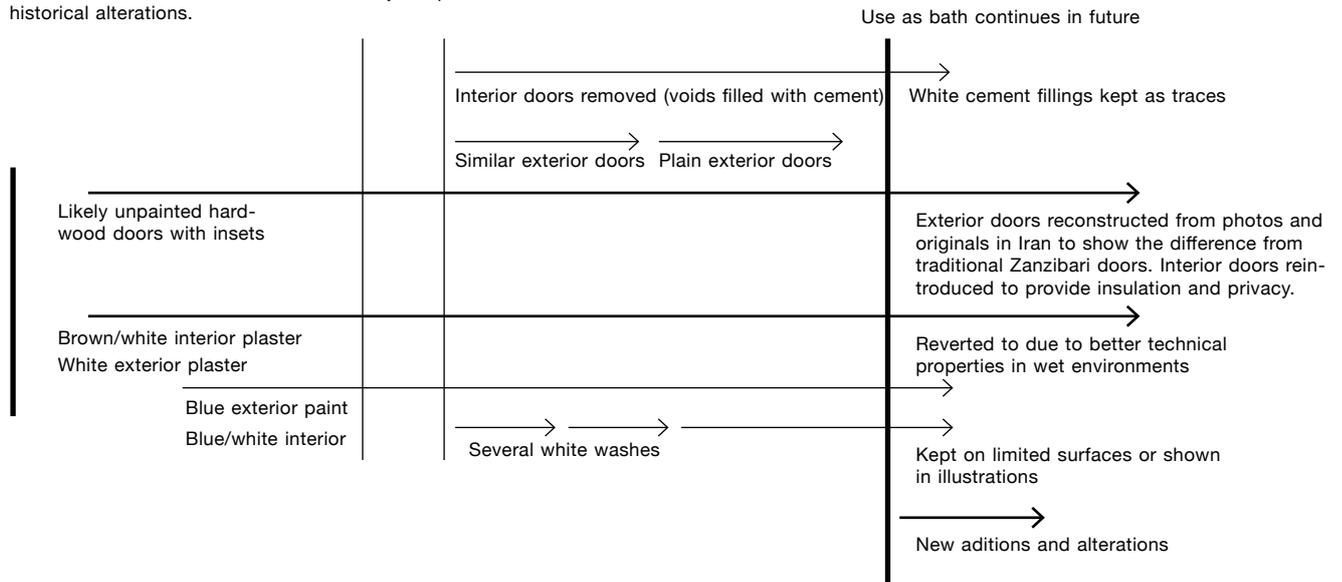
Conserving and altering

Time line showing examples of original and added or removed elements



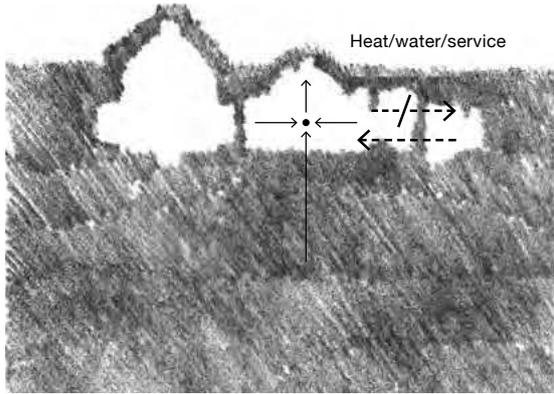
Examples of restored, kept or added elements in proposal for restoration

New connections (between history and future): With a selective restoration of old elements the original building, its later story and technical aspects are balanced. New elements and alterations are included in a context by the presentation of historical alterations.

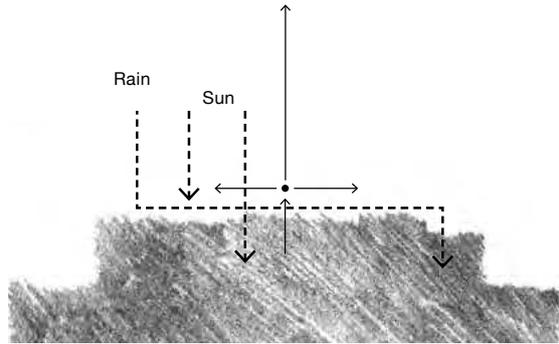


Concepts of space

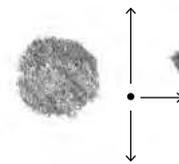
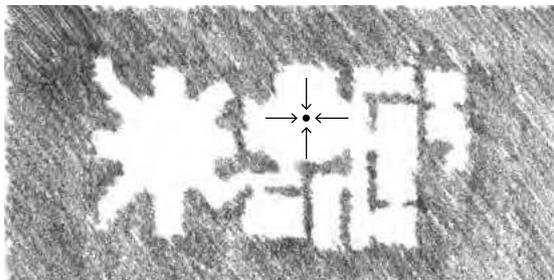
Interior



Roof space



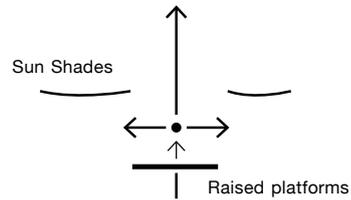
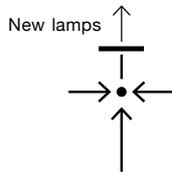
Current situation



Interior: On a solid base. Within space or earth, reaching upwards. Inwards reaching space, introvert experience of body (touch). The dashed line indicates the relation between service spaces and bath.

Roofscape: Traversing a landscape. On top of ground, under the sky. Outwards reaching space, extrovert experience of space (sight). The dashed lines indicate the functional permeability of the roof.

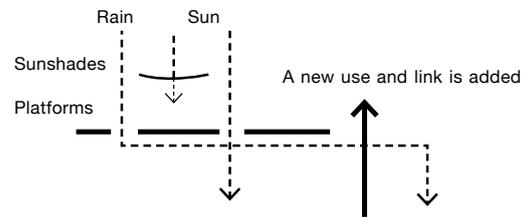
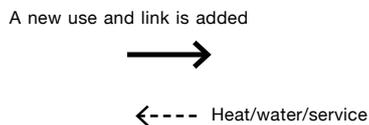
New spaces



New spatial attributes: Additions relate to the floor tying the experience down/to the mass of earth beneath the baths. Addition of artificial lighting is done in a way that lowers the centre of gravity, further centring the interior to an inwards experience. When used, the artificial lighting turns visual connections around with light streaming out from within to the roofscape.

New spatial attributes: New functional spaces relate to the sky, lifting away from the building on platforms. These traverse the roofscape without interrupting the permeability of the roof, instead pedagogically emphasizing it.

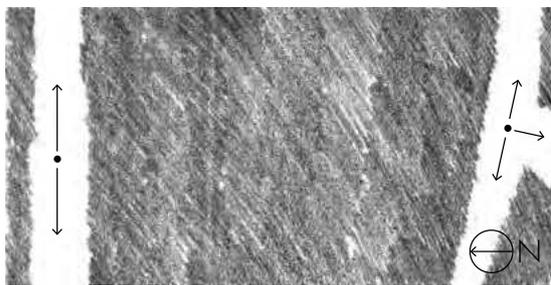
New connections



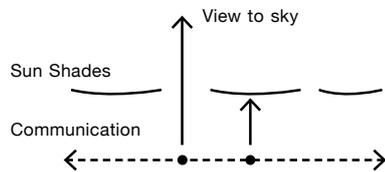
New connections: Use of former service space offers a better understanding of the system and caters for an expansion.

New connections: Use of roof for a clear understanding of resources and caters for public use.

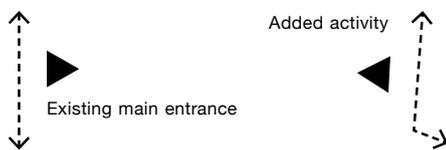
Streets



Streets: Direction. Along a walled channel or at a connection point. Serial spaces, temporary experience of movement (time). Dashed lines indicate principal movement past the hammam.



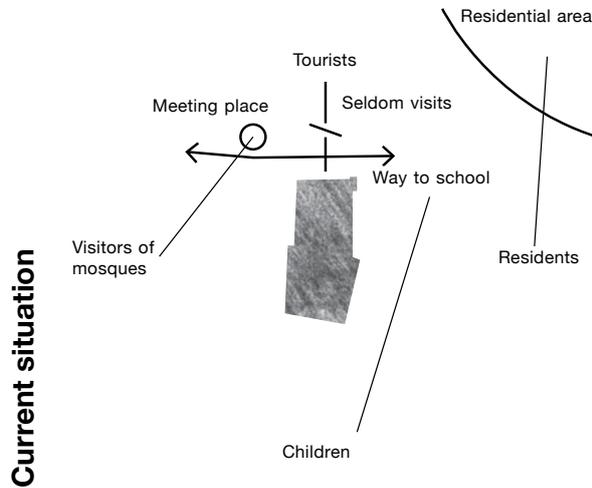
New spatial attributes: Additions emphasize movement and sequence, with new connections points such as a new baraza outside the former service entrance and sun shades at intervals along Hamamni Street.



New connections: Activation of former service entrance connects the imposing but anonymous back of the building to the front.

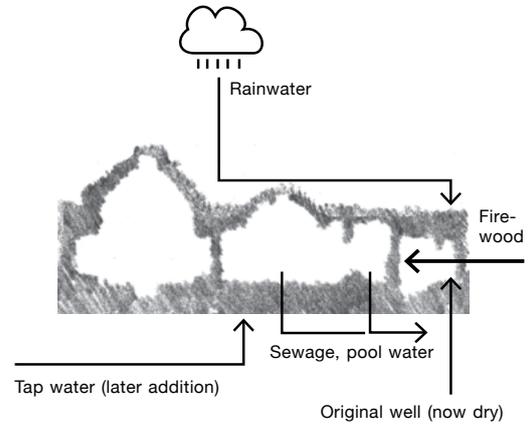
Concepts of use

User groups



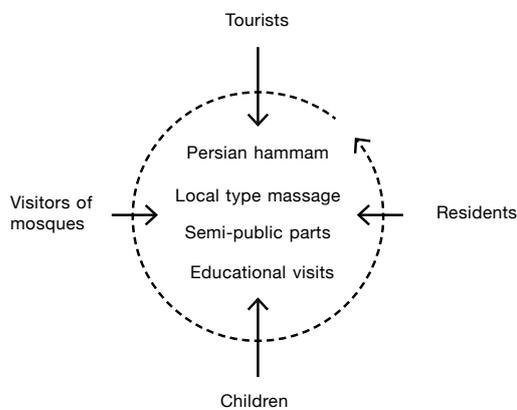
User groups: Historically the baths are at the centre of a buzzing neighbourhood but are now only a bystander. The flow of people however remains and with the addition of tourists.

Input and output

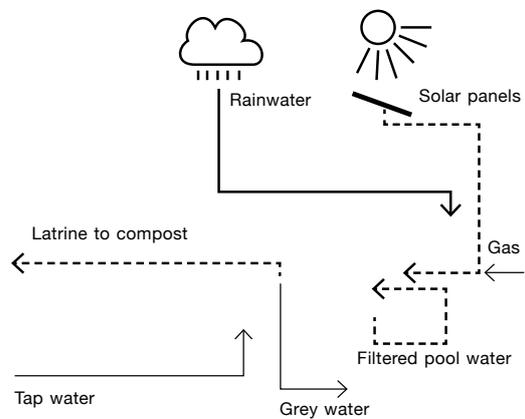


Input and output: The baths required a steady supply of wood and dung cakes for heating and had a redundancy in terms of water supply with several sources of clean water. All output was through a sewer.

New connections

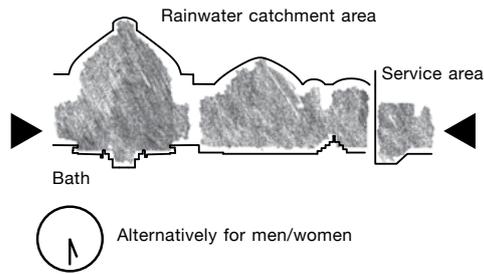


New connections: Activities angled towards various user groups connects people to the building again. Using the building as a common denominator, people are also connected to each other.

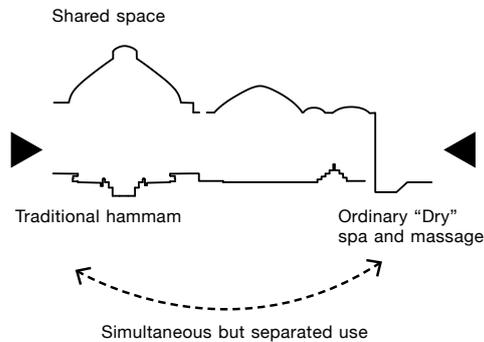


New connections: New requirements and educational ambitions meet in a system with lower demands on fuel, more hygienic pools and less output to the untreated waste water system.

Use of space



Adding a second section: A tenth of the interior and the entire roof space was designed as supporting space. With modern systems the need for these spaces is reduced.

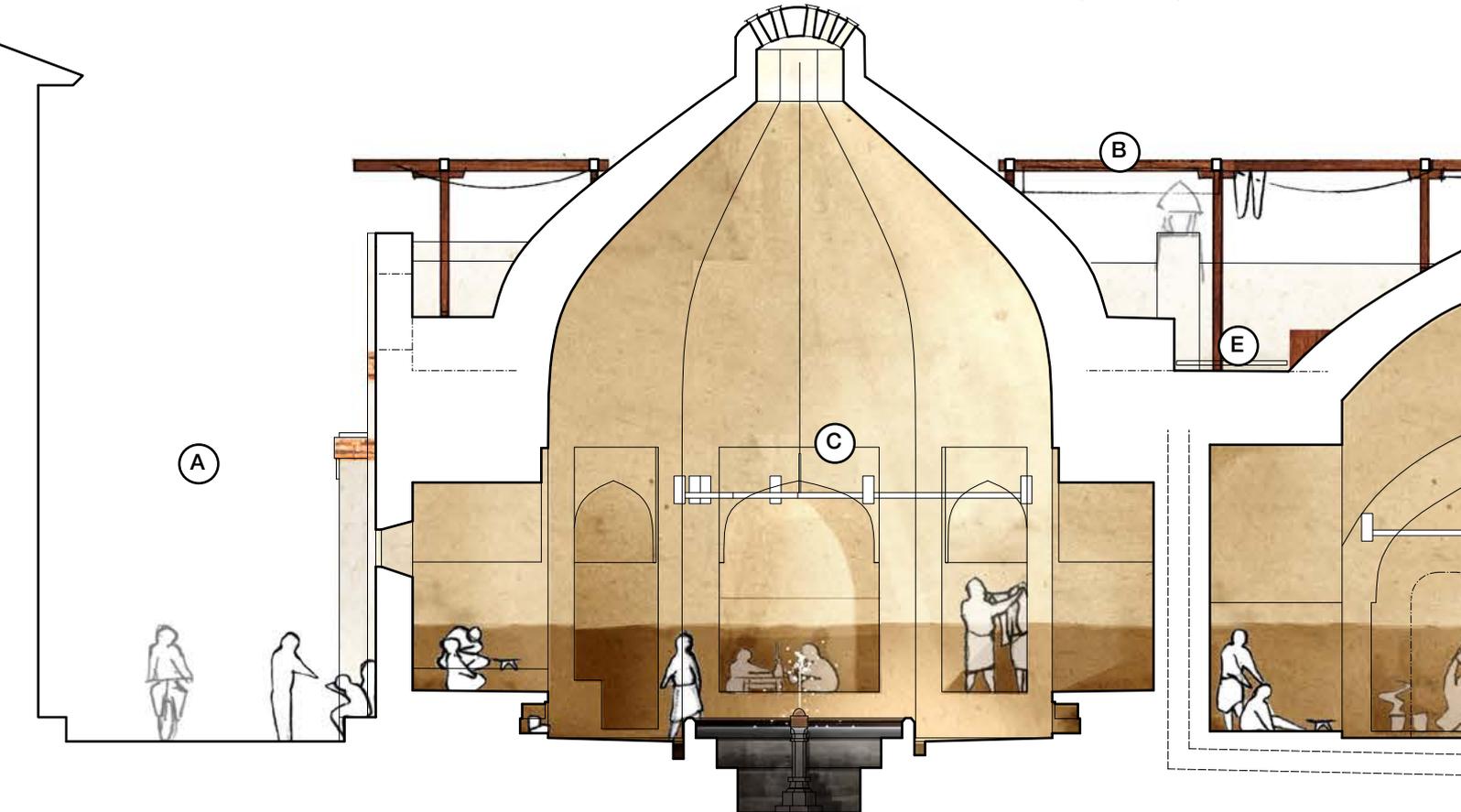


New connections: Refitting the supporting areas for new use accommodates use by both sexes at any given time. The ordinary spa and especially massage is also an important entrypoint for local residents.

Section of interior and roof

A. New sun shades: The sunshades that used to cover the street are put back and used to define the street as a node and to emphasize movement along the street by introducing a sequence of varying spaces under the shades.

B. Light framework: A hardwood structure on coral stone bases provide the means for fastening flexible sun shades. Vertical stability is provided from a combination of tension frames and rigid joints. Design sources include the local roof top tea houses and a need to construct without heavy machinery.



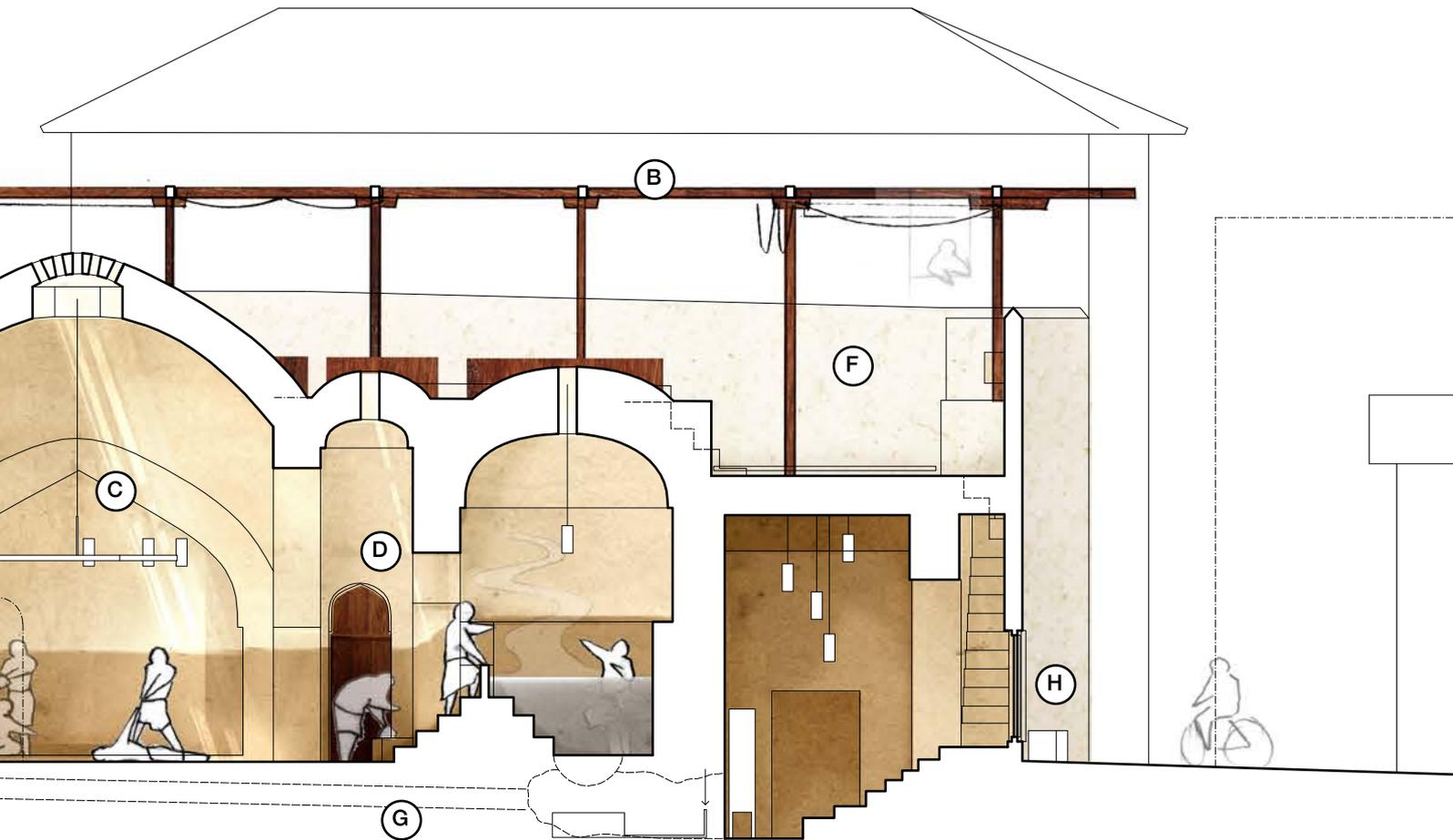
C. Light fittings: The freely rotating lamps of the main rooms have a one long arm traveling around the room in a mimic of the dynamic natural lighting of the passing day. Wiring is done from the roof with only the low-voltage part of the system on the inside, making dangerous or intrusive interior wiring unnecessary.

D. Interior doors: New interior doors lack frames and expose the previous removal of a door frame and the replastering. Instead, doors rotate on an axis from the floor to a beam where the former frame was, leaving a gap between door and wall/floor.



E. Walkways and platforms: Slightly raised from the surfaces where rainwater runs across the roof towards the cistern.

F. Service space for laundry: What was already originally a service space could potentially be used again for washing and drying the towels of the hamman.



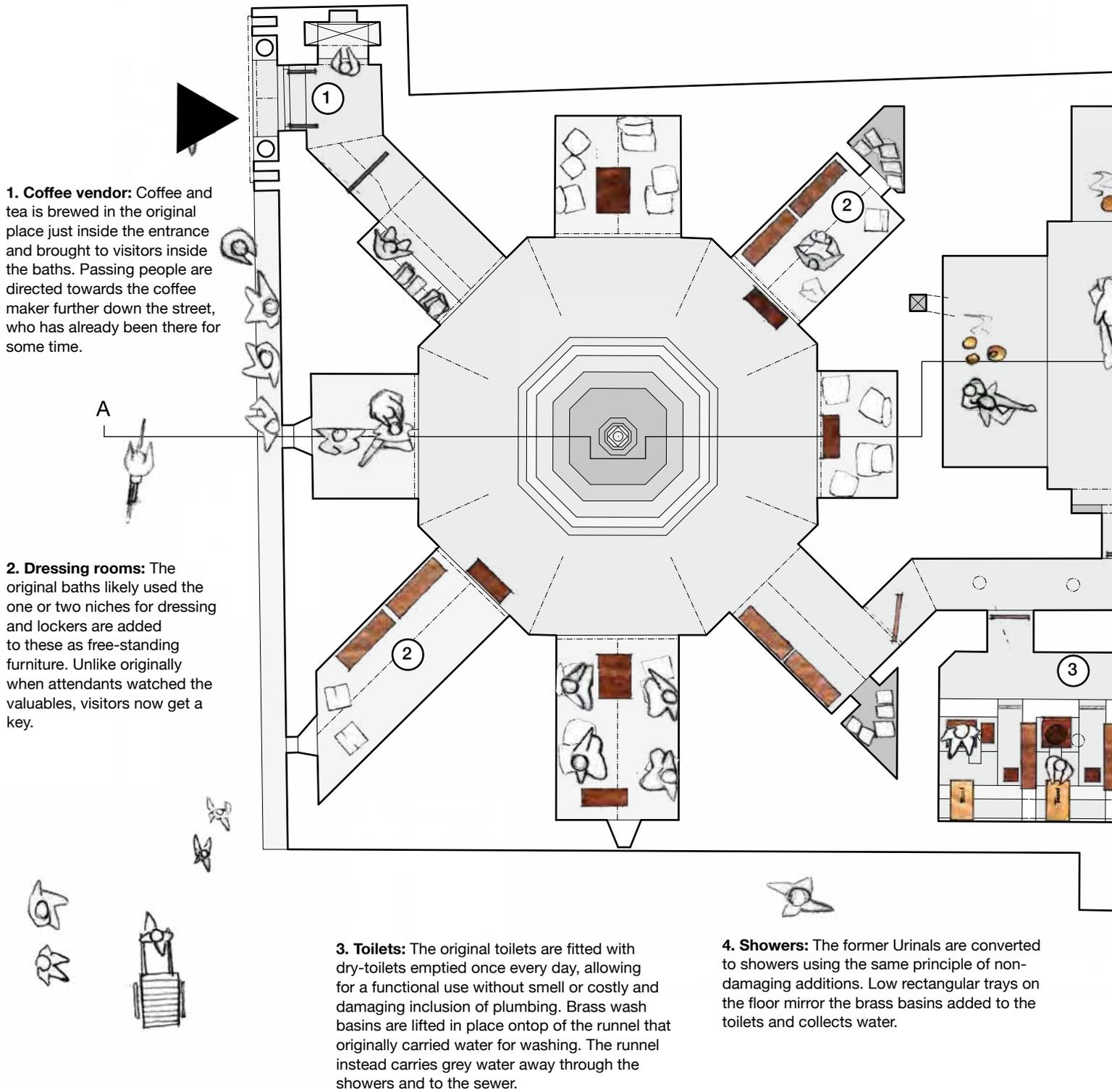
G. The heating system: The original under-floor heating system is restored to use and separated from the heating of water to allow the latter to make use of solar heaters.

H. New entrance and baraza: The addition of a second active side uses the former service entrance for spaces used for traditional dry massages. It also supports a new social dimension to the intersection.

10 m scale 1:100

Section A-A with original use and new features

Plan of interior



6. Traditional massage:

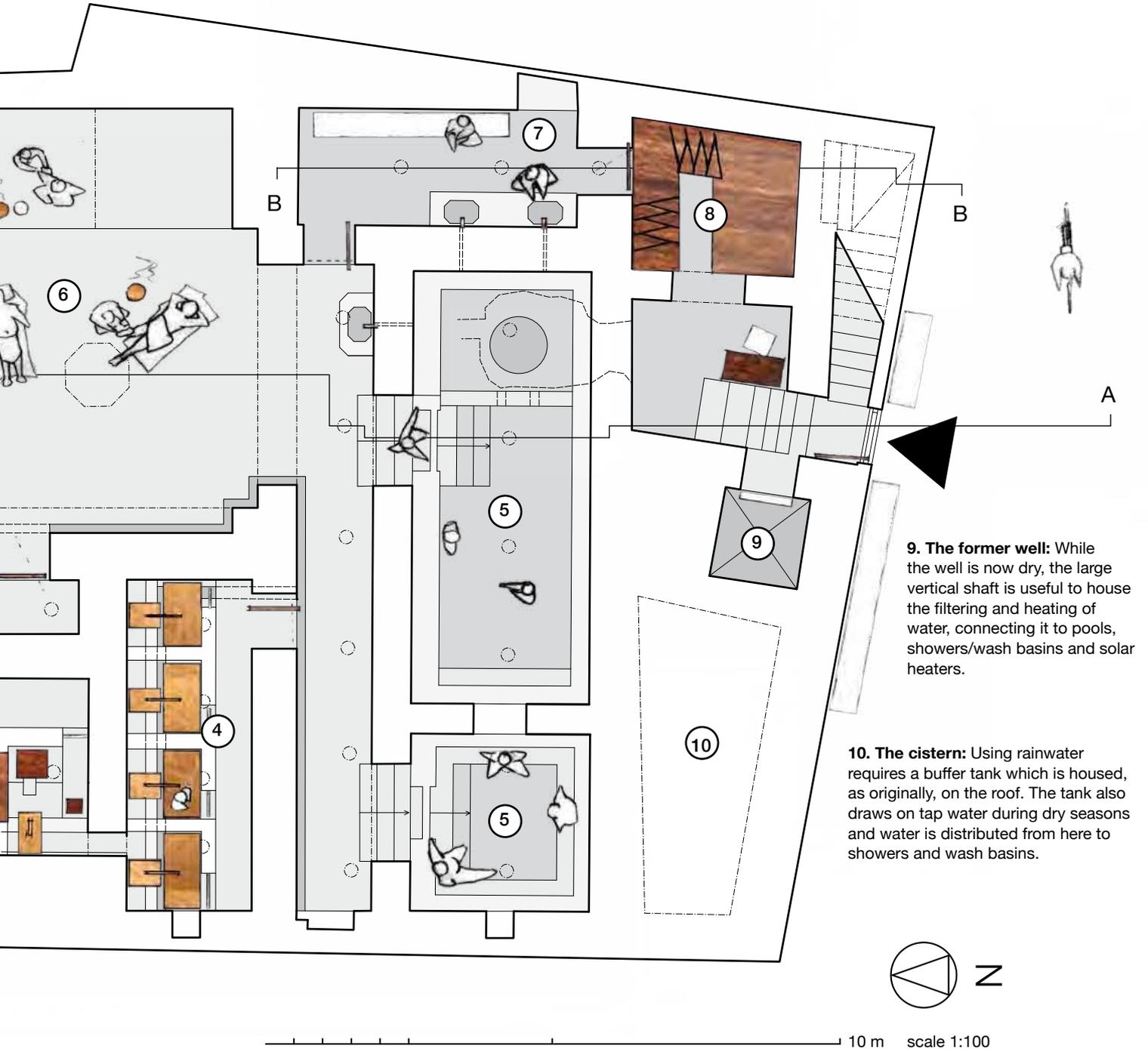
As in traditional Persian hammam, the heated floor is used for both massage and relaxing.

7. Space for soaping:

What was originally a space for soaping is connected to the former service area to be used for a shower and washing by visitors to the dry spa. This requires a new opening motivated by adding the original qualities of the building to both parts of the hammam, the existence of other non-original openings and also relates to an old plan for an extension (see appendix 1).

8. Dry spa:

With massage already becoming accepted for its medical aspects and drawing on old traditions, the addition of a dry side of the baths both acts as an additional entry point for local residents. It also allows the hammam to have both men and women visit at the same time, by alternating use of two separate sections.

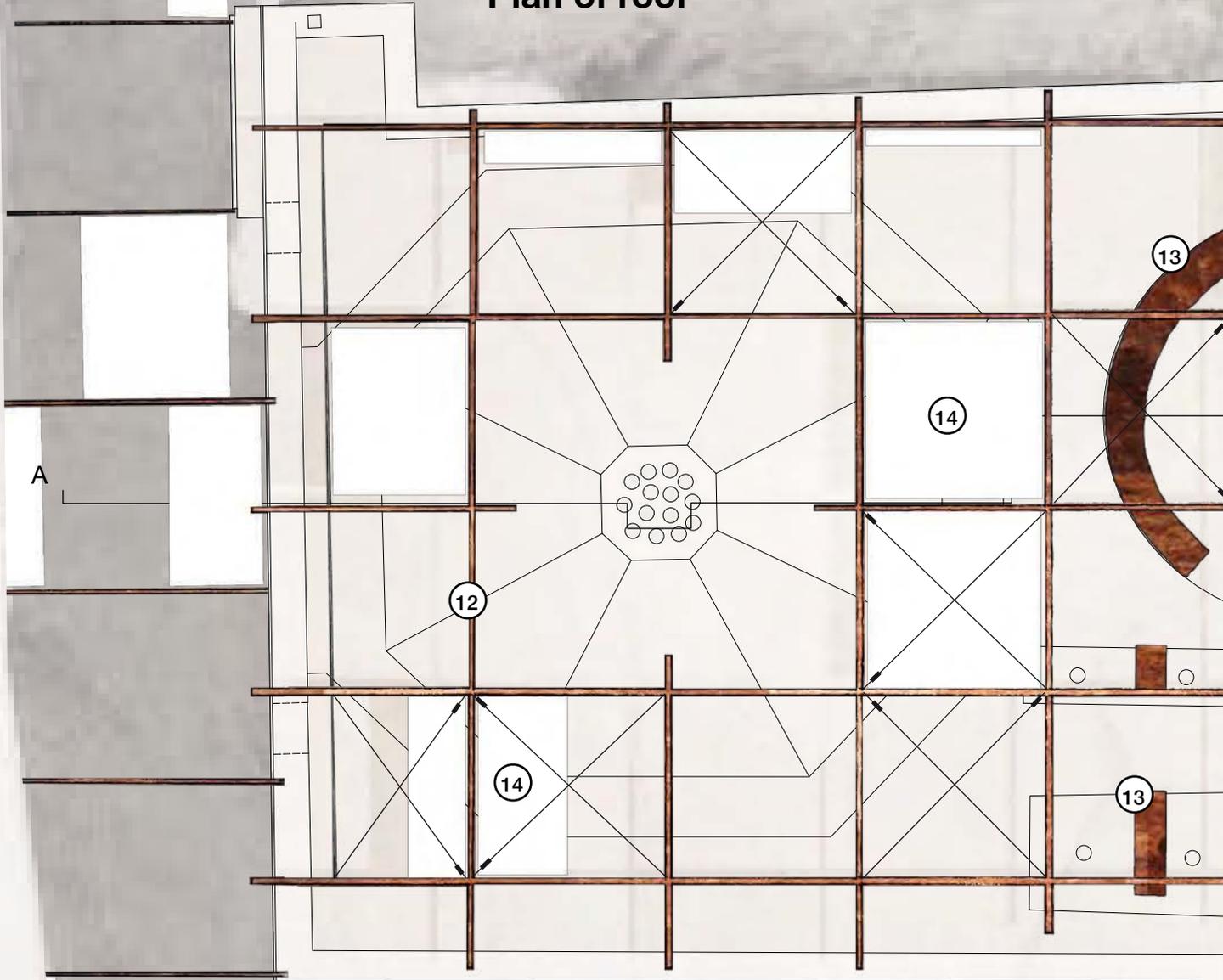


9. The former well: While the well is now dry, the large vertical shaft is useful to house the filtering and heating of water, connecting it to pools, showers/wash basins and solar heaters.

10. The cistern: Using rainwater requires a buffer tank which is housed, as originally, on the roof. The tank also draws on tap water during dry seasons and water is distributed from here to showers and wash basins.

10 m scale 1:100
Floor plan with proposed new use and features

Plan of roof

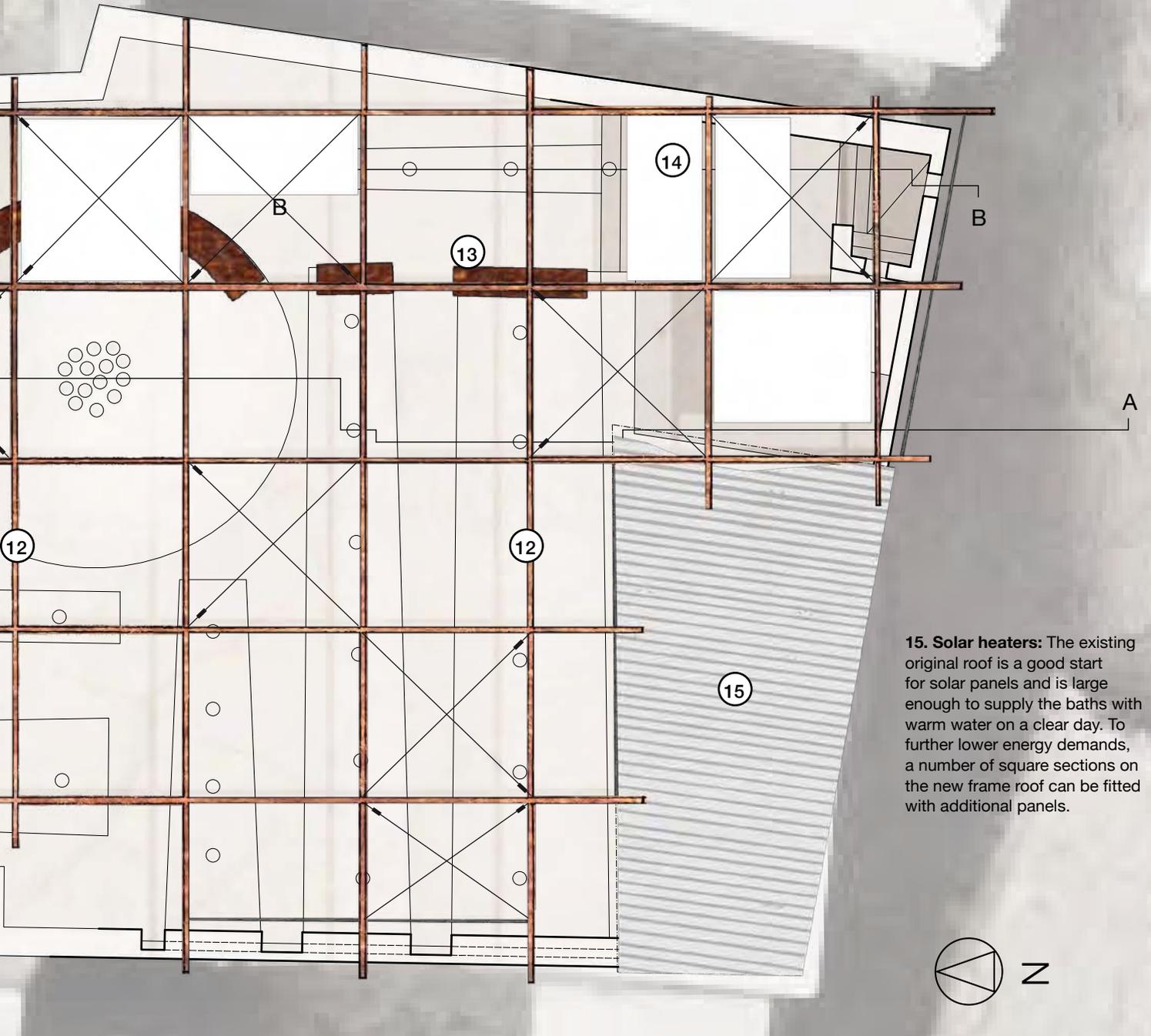


11. Restored sun shades: The sunshades that used to cover the street are put back and used to define the street more clearly as a node.

12. Light framework: A 3 by 3 meter grid matches the topology of the roof to an amazing degree and further allows for a pragmatic construction and sourcing of material (local timber is available in 2,5-3,5 lengths depending on amount of trouble and the shorts lengths are easy to work with). A set of tension frames creates a rigid sheath of the horizontal construction (and are mirrored in the vertical construction although with fewer rigid frames).

13. Furniture: Fixed benches help define the part of the roof that is normally allowed to be used. All light shafts however are covered with strong panes or globes that can take the weight of people.

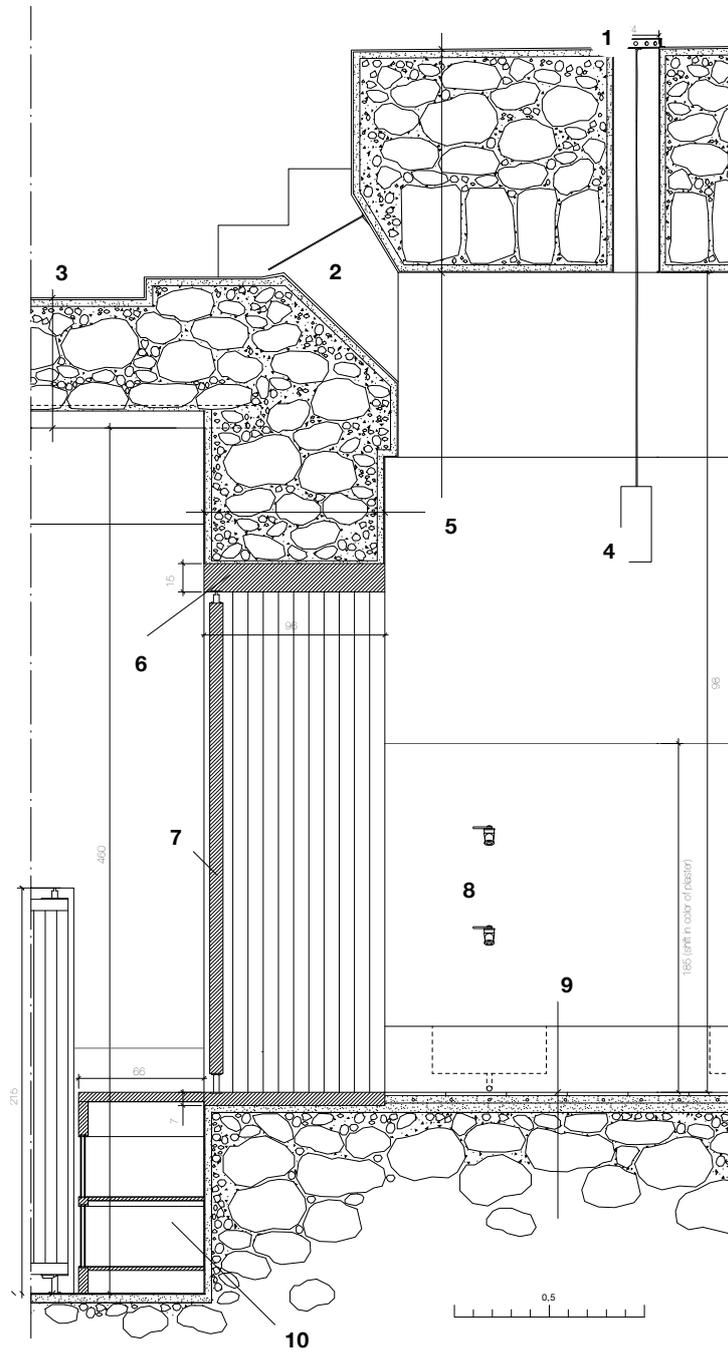
14. Sun shades: Canvas is easily hung to place or removed depending on weather and occasion. In this example the former (and remaining) service area is shaded to be more comfortable for the staff taking care of laundry from the hammam. The towels are hung from lines under the frames.



15. Solar heaters: The existing original roof is a good start for solar panels and is large enough to supply the baths with warm water on a clear day. To further lower energy demands, a number of square sections on the new frame roof can be fitted with additional panels.

10 m scale 1:100

Roof plan with proposed new use and features



Detail of section B-B. Scale 1:40

Details from previous page

- 1 New variable ventilated covers. The cool room and toilets will benefit from an amount of circulation while the warm room will typically function better with less ventilation.
- 2 The current design remains while the pane itself is replaced with a tempered equivalent for safety reasons.
- 3 The mangrove poles, boriti, are replaced according to good conservation practice. Replacements are not painted.
- 4 New brass pendants suspended from the new light shaft covers. 12V electrical wiring is carried on the roof, with no interior wiring required.
- 5 Walls and ceilings are repaired according to good conservation practice. Cement fillings around doors remain as well as historical repairs on selected walls, retaining an unbroken line of documentation.
- 6 Wooden beam as part of the frame around the new opening. Beam is supported on the sides of the frame rather than remaining parts of the wall. The frame itself rests on underlying load bearing coral rubble (see below).
- 7 Swivelling door (see detail drawings).
- 8 New taps copied from the one remaining. Handles and vaults reconstructed using the remaining original taps found in the pool rooms.
- 9 Under floor water heating connected to solar collectors via accumulation tanks. This floor was previously unheated. The damaged floor of the warm room is converted, from the original heating by furnace to a water based system, avoiding costly repairs and inefficient heating.
- 10 Stair to new opening, constructed in accordance with other furniture. The back of the integrated cupboard is left open as to allow ventilation of wall.



Restored sun shades

The sunshades that used to cover the street are put back and used to define the street more clearly as a node. Hamamni Street with the front facade of the hammam restored and the long since gone sun shades replaced.



Active use of roof

New hardwood framework with sunshades. The roof would house parts of the new “dry spa” part of the hammam. Refitting what was originally only supporting areas for new use accommodates use by both sexes at any given time. The ordinary spa and especially massage is also an important entry point for local residents.

Example details

Toilets without plumbing

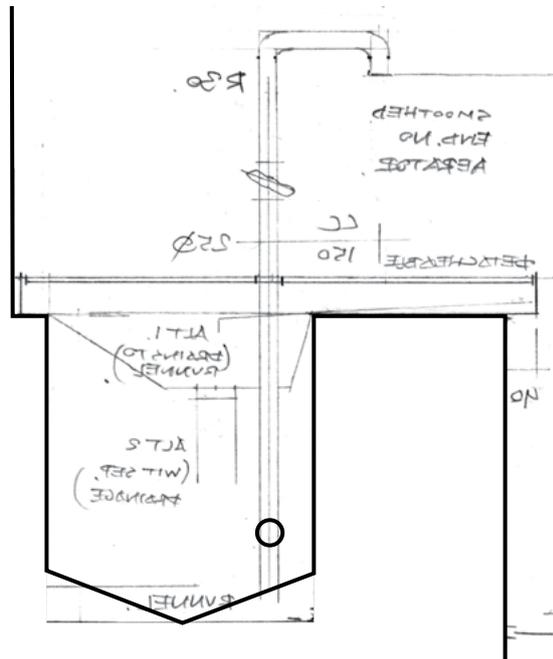
The toilets are remade with as few installations as possible and a “hang on” approach to the furniture. Brass wash basins are built to fit and are held in place by shape above the runnel that originally carried water to the toilets. Brass was used for original fixtures when the baths were constructed and are still applied to fixtures, basins, decorations and old style lamps.

Water is carried to the basins in pipes along the runnel and the runnel itself carries grey water from them to an outlet that also handles grey water from the showers. The original taps that were used for washing are put in place but supplies no water. The latrines are plugged using the same wood as the furniture and compost toilets replace them, requiring no expensive or destructive installations and works well and odour-less if emptied once a day when used as much as here.

Small cupboards straddling over the partitions offer improved privacy and storage of paper.



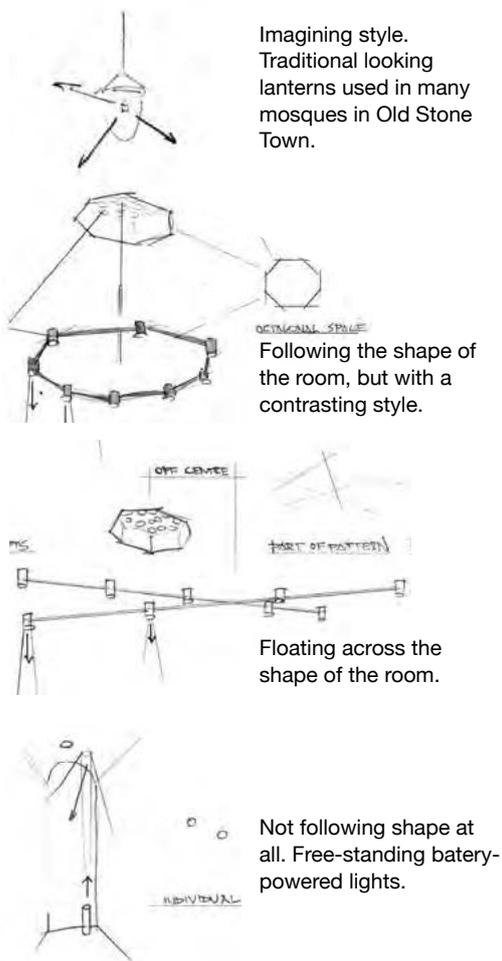
View with cut away partition.



Cut through runnel, Scale 1:10

A concept for lamps

Light fixtures, where necessary, are hung through the light shafts. Like all other new installations they are made of brass. Below is an example of the process of searching for an interesting balance along the scale between historicizing and disconnected design. From hand blown glass lanterns, possibly used in the original baths, to battery powered LED-fixtures.

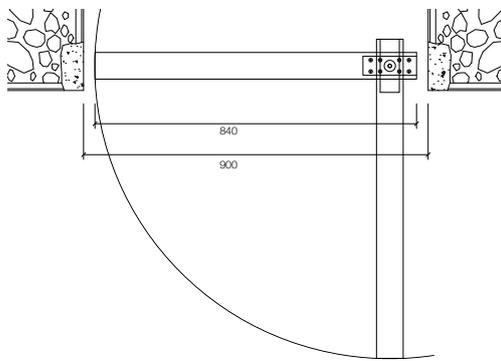


The fixture is allowed to rotate slightly around its axis, making the one long arm travel around the room in a mimic of the dynamic natural lighting. All but one light source are clustered around the middle of the room, balancing the long arm and providing an ambient lighting to smooth the contrasts between the room and the travelling light, making it less intrusive. Wiring is done from the roof with only the low-voltage part of the system on the inside, making dangerous or intrusive interior wiring unnecessary.

The doors, no frames

The original doors had wooden frames set into the plastered walls. The removal of the doors and filling-in with cement however is an interesting trace to leave and doors are instead hinged a decimetre from the wall, exposing the previous alterations when opened. Energy-wise it makes more sense to install door frames but the corridors and double doors provides a degree of air tightness even with a gap of a few centimetres around the door.

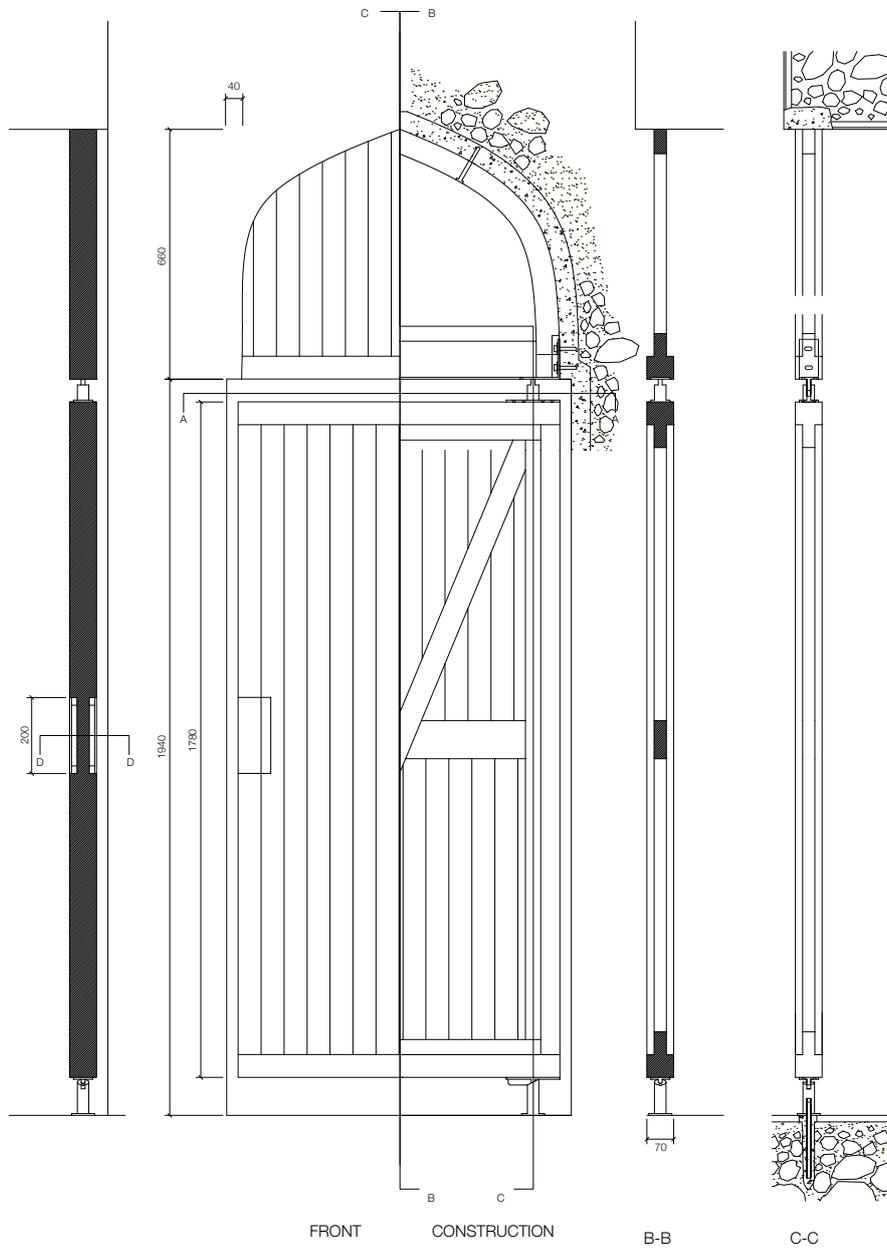
The door itself is unadorned, which was likely the original style. It is also likely that a dark hardwood was used for the original doors, and is applied to the new doors as well. As all wooden surfaces within the building, these are hard-waxed to ad an additional level of water resistance.



Pivoting door. Scale 1:20



New door, exposing the previous removal of a door frame and replastering. One tile for each door has to be drilled through, irreversibly damaging it. On the other hand, this approach leaves the walls more or less intact and has the benefit of not leaving organic material in direct contact with the damp wall behind the plaster.

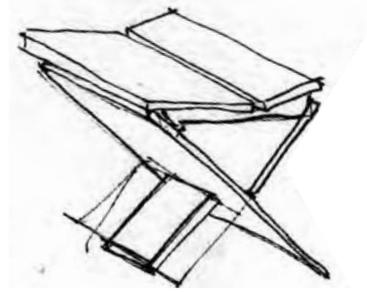


Pivoting door. Scale 1:20

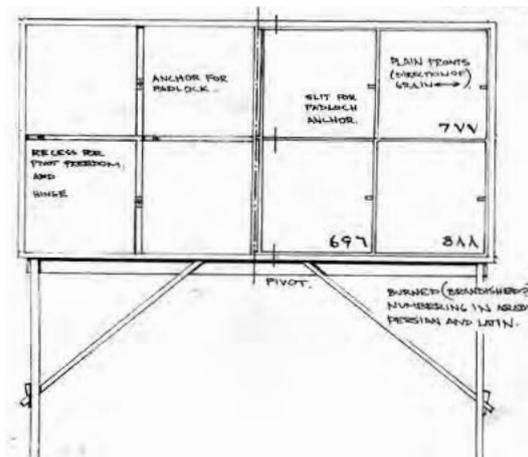
Furniture, entirely reversible

There is something interesting in the notion of removing additions altogether and some of the furniture can be made collapsible, not least to allow a flexible use. A number of cushions and chairs can temporarily be replaced with a massage table or similar.

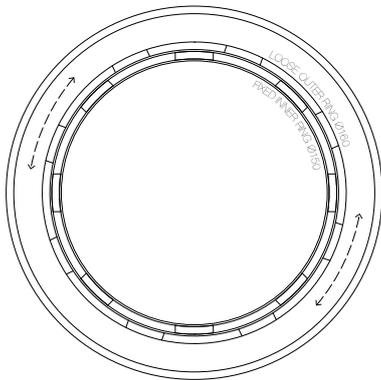
Furniture has been designed with the same unadorned waxed wood as the doors and has similar spatial qualities as the doors. As the doors, they refer to the smooth simple features of the building and can be retracted a few centimetres from the walls, to let light pass slightly behind them, tracing the wall.



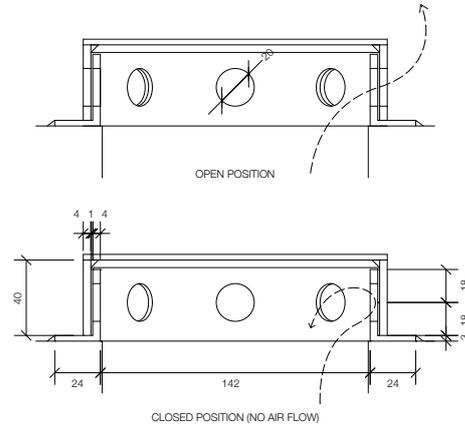
An example of a collapsible chair for those who minds sitting on the floor. The seat itself is made of two pieces of the same marble as the floor. A gesture in a sense, to those same visitors, who can enjoy the cool of the smooth floor from a convenient height.



Wooden locker with brass padlocks. It is dimensioned to fit in various parts of the baths, useful to store towels close to where visitors return to the cool room beside the main application as storage for valuables and a small bundle of clothes (35 x 35 cm lockers).



Ventilated cover for light shafts. Scale 1:4



Many of the existing panes are broken.



Iran, Amery-ha House (Mohsen Ghaemi 2008)

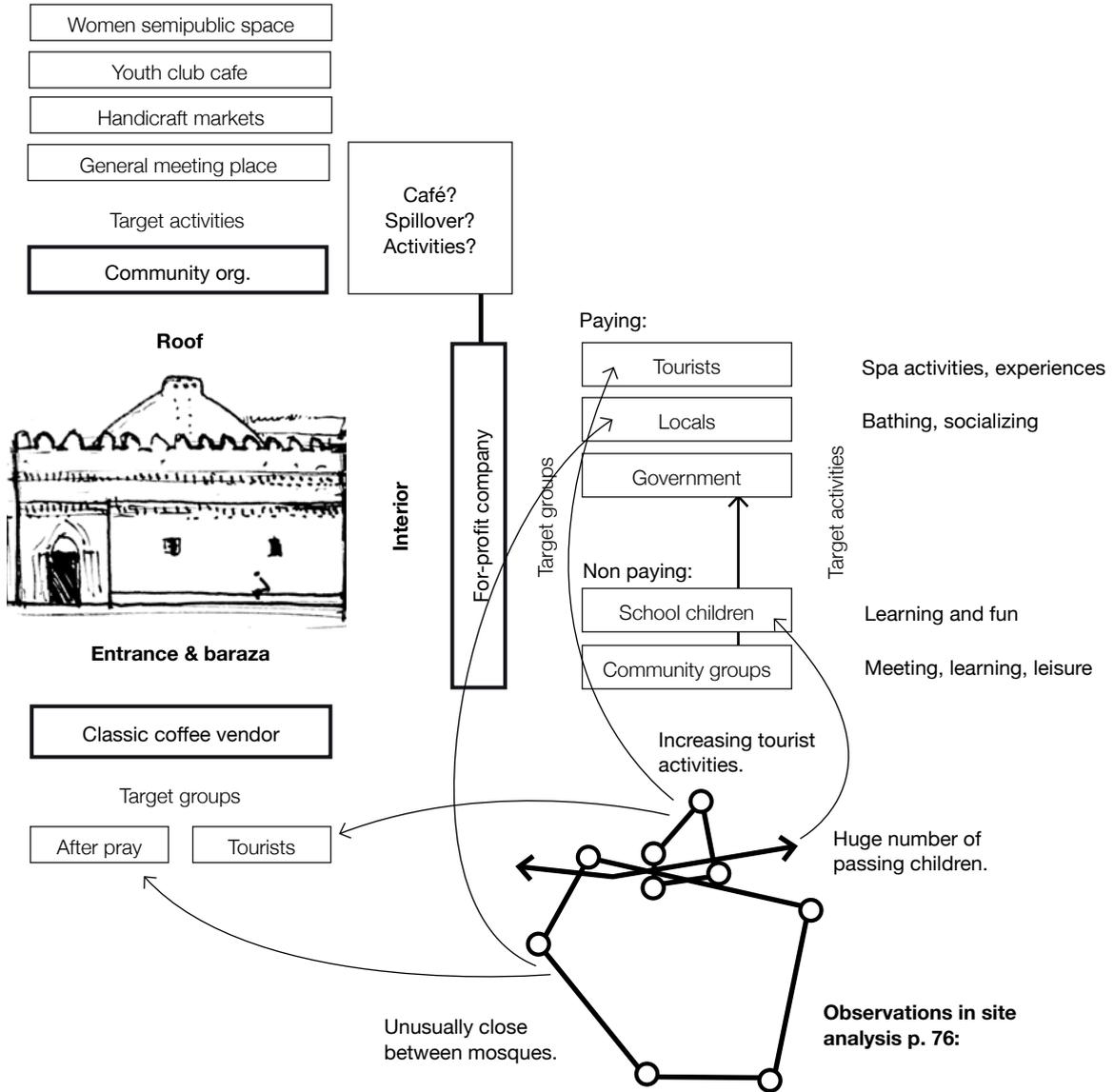
Ventilated windows

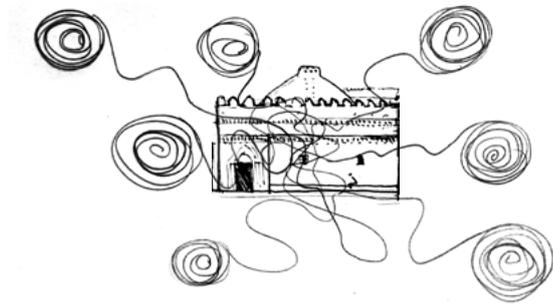
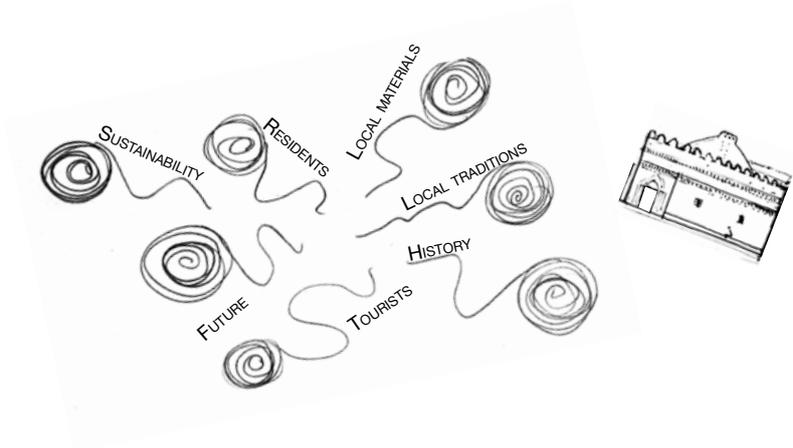
Instead of replacing glass panes with historical style mouth blown crown glass as seen in the example, a ventilated device is introduced to allow regulation of air flow.

Material: Brass and glass. The metal is traditionally used for both mechanical details such as hinges and for decorative details. Local craftsmen have both tools and skills to handle brass.

Conservation: The inclusion of ventilated covers benefits the building by lowering the level of moisture in the air in rooms where it is not desired. Ventilators of various kinds have been added to hammam in some other contexts as well, such as in the example above.

Thoughts on management





CONCLUSIONS AND RECONNECTING THE DESIGN

To the original

Very late in the process I encountered a company that had filed a request to convert and use the Stone Town public hammam as a spa. I was told by the contractor hired to conduct a pre-study that the request included a brief on how the historical values of the building could be protected. Whether it is that pre-study or these new conclusions that will color a future remodelling or restoration, the building will be changed from what it is today. If we choose to see historical authenticity as an important part of handing the world heritage site over to future generations it is clear that any alterations even from the current state should be carefully assessed or else reversible. The deterioration of the building however will soon force actions that cannot be made reversible. Likewise the lack of funding for restorative work or even basic repairs is likely to force a commercial use of the building requiring and perhaps validating changes.

With the building description compiled here likely being the most accurate to date it is probable that other proposals until now has lacked that aspect in part ³⁵. A comparison would be interesting but with

35 In fact interviews with officials states the lack of detail as one of the primary concerns with previous proposals. It is also telling that there

out access to these proposals, the design suggestions I compiled after the first pre-study in 2013 can serve as a point of departure for evaluating how close to the original the new design is and relate it to the research that has passed in-between.

Some conclusions that can be drawn are: 1) More specific intrusions on the building and many alterations removed as a result of uncovered original design or use proving to be a more effective solution. In fact it is possible to say that I have undesigned some aspects of the future use in relation to the proposal before the deeper building description. 2) Much more specific choice of design palette drawing from original installations, materials and lack of decorations. 3) More focus on original use, which is discussed further on under research.

To theory

The focus on the thoughts of Cesare Brandi here and my lack of previous academic knowledge of restoration has led to a chiefly inspirational approach to theory. It has non the less made a big impact on the design proposal both in terms of providing an inspirational framework in the idea of the

are no professional building antiquarians active in Zanzibar although a number of historians, site archaeologists and architects exist.

separate layers *and* as a constant measure for valuation of design choices. In fact I find the two sides are difficult to separate once knowledge about the history of a building (including that after its construction) and an understanding of relevant theory is obtained.

To research

It is not irrelevant to ask whether allotting half a master thesis and three months of previous work to a pre-study. Neither is such a pre-study irrelevant. Since the relation between the original building and design has already been mentioned I wish to point here instead to the contextual research, the extended *genius locae* if you wish, regarding hammam culture. In a local context where these baths remain in use, it would make more sense to discuss the relation between tradition and actual users. But the lack of and fragmentation of knowledge about the Zanzibari hammam and that they were in fact used during a relatively short period of time, mostly by the elite, has made it necessary to construct knowledge from the ground up. Knowledge that in other contexts might have been readily available from an advisor during the design process. Likewise, if the baths had been of a type that had been more covered in research than the Persian and Omani bathing traditions the extensive mapping of hammam culture would have made less sense from a design perspective.

The design process here has been absolutely dependent on the study of hammam culture. The study has provided original use, put into the design, and has been an important part of understanding even physical aspects of the building. The reduction of alterations mentioned earlier and is one example and there are direct connections such as where a room (110) previously thought to be a service entrance has been relabelled as a place for private scrubbing and according to original use and furnished with a bench often introduced in remodeled hammam in Iran, for visitors to sit on while soaping themselves. In a sense the process has been one of design by research.

DISCUSSION

Towards a personal theory

Conserving and developing design appears to be an act of balance. It is inevitable because of the creative approach by which inspiration is sought in the context or elsewhere and necessary because of the desire or need to respect or preserve the original.

This interaction between new and old may ultimately be the best tool with which the past can be carried forward, by connecting it to what will ultimately join it as part of history. I admit excluding, for the sake of the argument, a discussion on historical documents that must remain inert for one reason or another; explained but untouched because their value as such. In the process I have used I am interpreting and inspiring - taking in and producing - not just by altering the context in which the original takes place but also by changing the object itself in the sense that I am creating a new whole that might, by many, be seen as an original. Herein lies the problem of balance.

The process could be likened to the act of adding or changing the frame of a painting. The act might come from a wish to better integrate the work of art into an other whole, say a home or exhibition, or from personal taste. Such an act could be warranted from an artistic perspective as

empowering the object by establishing its place in the context or by allowing for a more harmonious interpretation of in the mind of the observer. The perspective may be disputable from an historical perspective but then again, few works of art exist in an inert original context as such a nature must ultimately have a boundary at which interaction with a greater whole will take place. An other perspective is that of architecture and use. The first question from that point of view is when if at all a building should be kept inert, admitting no more alteration other than of purpose and use such as in the transformation into a museum that must be the result of such a denial of accommodating for the passage of time.

It must be acknowledged course that this approach lends the initiative of interpretation to the process of creating a new whole and that such initiative equals a responsibility towards every subsequent interpretation of the building. It requires an understanding of the underlying intentions and the circumstances under which those intentions translated into the original. A misinterpretation of those will inevitably lead to a misleading whole. Yet I think that the process should remain that of a creative interpretation if it is to truly develop a new whole and act as a link which is as relevant to both original and current context (the context is not limited to the physical but

includes cultural reference points as well). These apparently contradicting intentions require a buffer. Distinction between original and addition serves as this buffer, that cushions the artistic and historical authenticity of the original against misleading interpretation. The harmony between the two parts acts at the same time to soften this distinction and keep it from tearing apart the whole, the oneness, diminishing the original.

In discussing lacunae, the parts of a damaged work of art that can not be derived from its fragments, Brandi points to the necessity of using a precise amount of contrast. Too much contrast and the area left blank of information disturbs the whole; too little and it will be perceived as a false figurative part of the original. The effect is described as that of a fleck on the glass covering an image. Receding on a separate level, it is deducted from the perceived image although it does obscure part of the available information and is obvious when attention is given to the slight disturbance it may create, for example when the eye moves in relation to it.

Using the lacunae and the fleck on the glass as analogies, additions to a building can be seen as a second layer not disturbing the whole but distinguishable when focused on. In the first case the eye needs to move in relation to the painting for the extra layer to be discernible. In the case of the building and the deliberate addition of information the intention is for the fleck to be revealed by movement of the mind.

While a harmonious whole should meet the immersed mind, the same whole should slide smoothly apart before the attentive mind.

So in essence I have worked in the spirit of two analogies: The analogy of the frame, acting as a border of interaction between original image and contemporary context; and the analogy of the fleck on the glass, as a way to relate the frame, image and context to each other in an intuitively readable conglomerate.

The intention in other words was not to create an alloy, an inseparable new material, but to add layers that in their readability add more than they would as indistinguishable alterations of the original.

FINAL WORDS

Working with the thesis

This project was originally intended to be design centred. As mentioned in the conclusions research and documentation took over as the driving process as questions amassed about the original use and appearance of the building. Whether the building was originally white, brown or blue is one of these that kept nagging me about the fact that the very basis for my design process was being laid out on slippery ground.

In retrospect I can see how much my personality, intent on collecting and understanding, had part in leading the process this way. The widest as well as the most specific aspects of the study are simply not required where completed design is concerned. They were motivated at the time as an important solid ground in future scenarios where funds would have to be raised for the preservation of the building. Seeing this from a process management perspective, and acknowledging the aim to produce an architectural proposal, it is obvious that the scope was too broad. The result can be seen in the design which is only brushing the surface of a potential form. It can also be seen in the difficulties in connecting design to a base of references wide enough to have required its own focus in order to distil it into a truly applicable form.

In the end however my fascination for the building and its potential is deeper than ever. I also feel that I have gained an entirely new area of knowledge and perspectives to apply in future work.

REFERENCE LIST

Written references

- Brandi, C. Restoration Theory (original title *Theoria del Restauro*), Nardini 2005 (1963)
- Crouch, D. P. Water Management in Ancient Greek Cities, Oxford University Press 1993
- Curatola, G., Scarcia, G. The Art and Architecture of Persia, Abeville Press 2007 (2004)
- Dumreicher, H., Levine, R. S., Sibley-Behloul M. (ed.); Hammam Rehabilitation Reader; Sonderzahl 2012
- Eickelman, C. 1944 Women and community in Oman, New York University Press 1984, p. 126
- Fagan, G. , The Genesis of the Roman Public Bath - Resent Approaches and Future Directions 2001
- Folkers, A., Denissen, A. Mtoni, ArchiAfrika 2010
- Gagarin, M. (ed.) Oxford Encyclopedia of Ancient Greece and Rome - Vol. 1; Oxford University Press 2010
- ICOMOS. International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter 1994), ICOMOS 1994
- Joffroy, T. (ed.) Traditional Conservation Practices in Africa, ICCROM 2005
- Juma, A. M. A guide to Hamamni Baths. Zanzibar Department of Archives, Antiquities and Museums 1993
- Lucore, S. K., Trümper, M. (ed.) Greek Baths and Bathing Culture - New Discussions and Approaches; 2013
- Orbaşlı, A. Architectural Conservation, Wiley-Blackwell 2007
- Pallasmaa, J. Eyes of the skin, Wiley 2012 (1996)
- Royce, L., McQuillan, D. A. The Stone Town of Zanzibar, A Strategy for Integrated Development, UNCHS 1983
- Sacks, D. , Murray, O. (ed.) Encyclopaedia of the Ancient Greek World, revised edition, Facts on File 2005
- Sheriff, A. (ed.), The History and Conservation of Zanzibar Stone Town, Ohio University Press 1995
- Sibley, M., Jackson, L. The Architecture of Islamic Public Baths of North Africa and the Middle East; Article in Arq vol.16 no.2 2012
- Stone Town Conservation and Development Agency. Zanzibar Heritage Management Plan, STCDA 2008
- UNESCO, Authenticity in Relation to the World Heritage Convention, Annex 4, 1994

On-line references

<http://www.encyclopaedia Iranica, www.iranicaonline.org>, Article on Persian bath houses, (article downloaded 2013-12-01)

<http://www.greeka.com> travel magazine, Article on Thessaloniki Ancient Sites (article downloaded 14-04-23)

<http://www.omantourism.gov.om>, Fanja - Where Beauty and History Converge; 2011, (article downloaded 13-12-15)

<http://www.mrmwr.gov.om>, Ministry of Regional Municipalities and Water Resources (article downloaded 14-04-25)

<http://www.realityinoman.wordpress.com/author/omani0dreamer/> article from 2010 (article downloaded 13-12-15)

<http://www.solutionsforwater.org>, article 2633 - Aflaj Systems as a Suitable Solution for Water Supply in Arid Areas, Al Azri M. M. 2012, (article downloaded 2014-04-26)

<http://www.stcda-zanzibar.org/whhs/hs#head-pages>, Article on history, (Article downloaded 14-04-20)

Maps

A maximalist view of the Empire of Oman in the early 19th century, Wikimedia Commons (file downloaded 14-02-18)

Map Iran_19th, Wikimedia Commons (file downloaded 14-04-22)

Ottoman_Empire_16-17th_century, Wikimedia Commons (file downloaded 14-02-18)

Map of Zanzibar Town 1846, (After Guillain, Album, 1856, Pl. 9 as repr. in A Sheriff (Ed.), The History & Conservation of Zanzibar Stone Town)

Map of Zanzibar Town 1977, (Government of Zanzibar as reproduced in A Sheriff (Ed.), The History & Conservation of Zanzibar Stone Town)

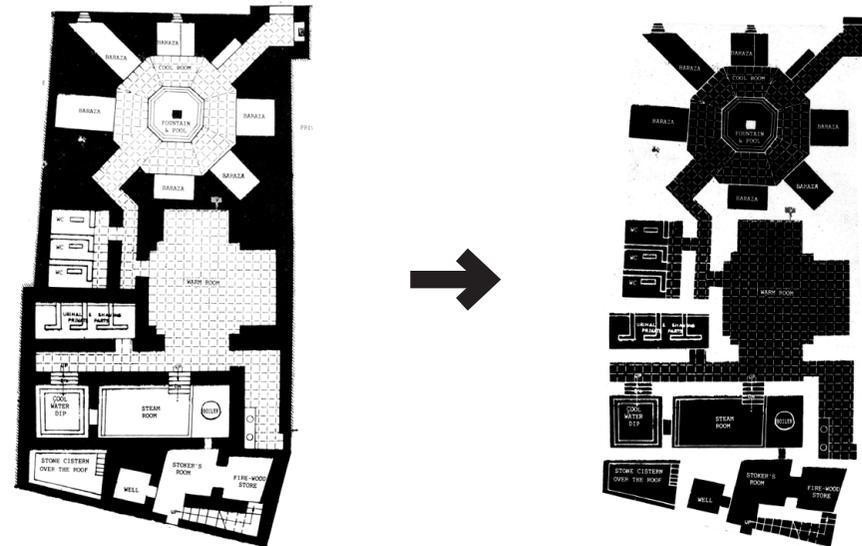
Maps used in Site Analysis, Zanzibar Department of Urban and Rural Planning 2013

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APPENDIX 1

As part of the master thesis Reconnection: Context, Artefact and History in Designing the Restoration of a Zanzibari Hammam



THE HAMAMNI BATHS

from artefact to development multitool

Reality Studio 2013 Zanzibar Chalmers , Simon Farsi

Appendix 1

As part of the master thesis Reconnection: Context, Artefact and History in Designing the Restoration of a Zanzibari Hammam
2014 (rev. 2016)

The Hamamni Baths, from artefact to development multi tool

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This is a report in the Reality Studio; Sustainable development in a Southern context, ARK161/181, in the master programme Design for Sustainable Development (MPDSD).

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Index	1
Abstract	2
Background	4
The idea	4
Limitations	4
Acknowledgements	6

CONTEXT

Zanzibar and Stone town	8
Focus 1: The built heritage	12
Focus 2: Tourism and identity	14
Focus 3: Maintenance and funding	16
Focus 4: A call for using rainwater	18

THE BUILDING

Location in Stone Town	20
History of the building	22
Sections and plans	26
Other baths on Zanzibar	28
Influences from Persia	30
Use	32
Movement in the bath house	33
Heat and air	34
Water	35
Old plans for an extension	36

CASE STUDIES

What kinds of facilities are needed?	38
Would locals use a bath?	39
Can utilitarian goals make money?	40
Is it allowed to change the baths?	42

DESIGN

Design goals	44
Design criteria	46
Relation to adjacent empty site	48
Accessible roof	49
Altered communication	50
Shared spaces for bath and spa	51
Additions with a light touch	52
An on site lighting study	54
A brief proposal	56
Discussion	63
References	64

Abstract

This project aims to investigate the possibility of restoring a 19th century Persian bath in Stone Town, Zanzibar.

A proposal is developed in which the building is seen as an intersection point between many of the pressing issues that face society in Stone Town. Relevant actors have been included in a discussion about possibilities and difficulties and a group of inhabitants responded to the idea in a small survey.

A mapping of the building was done and new drawings are presented with better accuracy than previously available material.

The objective is to catalyse the transformation and steer it towards utilising the full potential of the building. The aim is also to understand the role of the architect as the initiator of change through the project and with the proposal.

The imagined result is a change from an artefact relying on external funding to a self-supporting entity. A well used building, a meeting-place, an attraction, a source of identity and a promotor of sustainable relations to water.

Keywords

Restoration and adaptation

Eco tourism

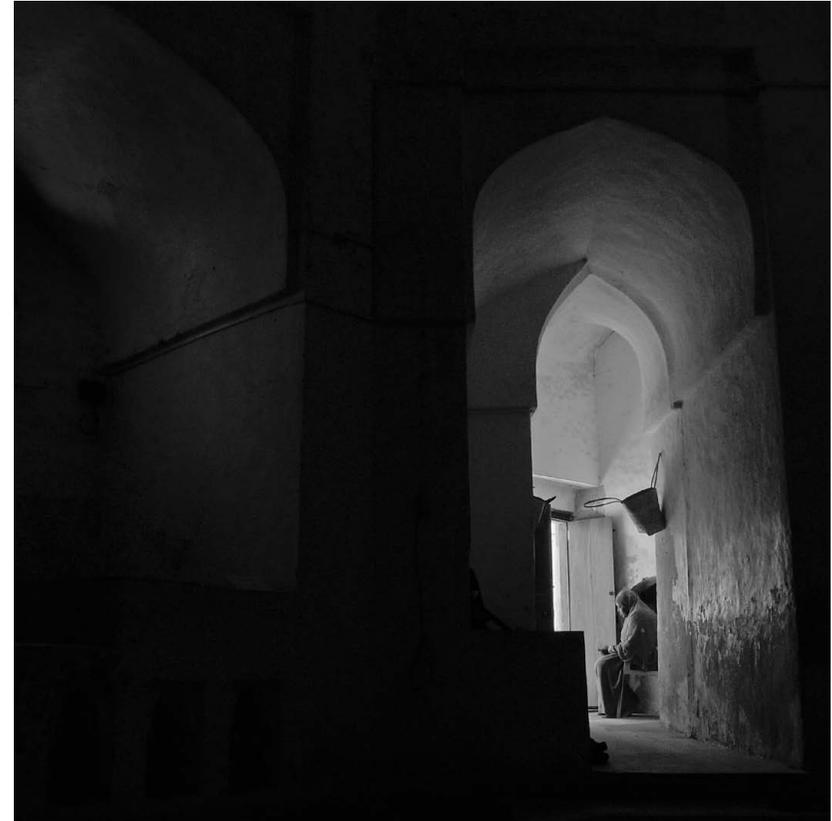
Economic sustainability

Built heritage

Public space



Entrance to the Hamamni Baths from Hamamni Street.



The same entrance from within the baths.

Background

This report is a product of the course Reality Studio in the master programme Design for Sustainable Development at Chalmers University of Technology.

The studio takes the form of a graduate architecture course concerned with real-life projects in Sub-Saharan Africa. An international mix of students majoring in architecture, civil engineering and management engage in complex contexts as consultants and researchers.

The course aims to mobilize transdisciplinary knowledge to find new design strategies to meet the challenges in fast growing mid sized cities in the studied contexts.

Local actors are involved in planning for and addressing the pressing needs of todays societies while safeguarding the sustainable future development of the same societies.

This year, the studio takes place in Zanzibar and highlights the Stone Town.

The idea

A big problem with the restoration of old buildings in Stone Town is that there is no money to maintain them once they are restored. Therefore they fall into disrepair again and the cycle has to be repeated. Putting them to use and creating an income is a way to avoid future collapse.

The idea is that with small modifications, the life and function of the Hamamni Baths can be brought back, while maintaining and highlighting its historical value.

Once a public bath house for the rich, the Hamamni Baths could become a diversely used building. A place with functions benefitting many different people.

By pointing to the possibility, producing more accurate drawings and suggesting a way to relate new functions to the local context, I hope to contribute to the process of transformation that has already begun and steer it towards utilising the full potential of the building.

Limitations

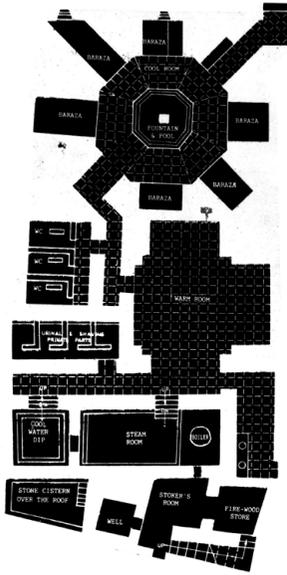
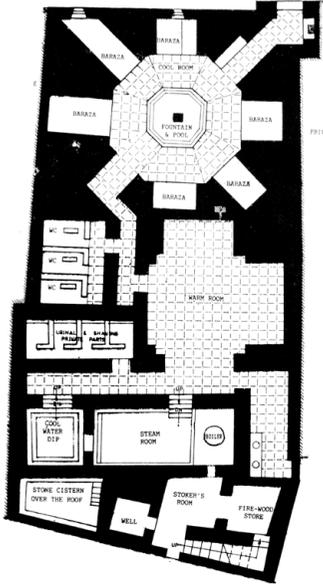
A descriptions of how the different rooms of the baths were used exist in the short book A Guide to Hamamni Baths from 1993. Only an overview is given in this report. A full photographic documentation is however available from the mapping that preceded this report, which together with the guide book will give a good understanding of the building.

Furthermore, focus lies on inventory and investigations rather than a complete architectural and technical solution. What is presented here is a the basis for discussion rather than the end of a design.

Without advanced apparatus for mapping, the exact measurements of the building can not be guaranteed. Measurements on the scale of the whole building have an accuracy of around 20 cm while the accuracy of the boundaries of rooms (floor, walls, ceiling) is around 10 cm on average and details therein, 5 cm.

From focusing on artefact
to seeing potential use.

Original graphics: Zanzibar
Department of archives,
Antiquities and Museums
1993



Acknowledgements

I would like to express my gratitude to:

Everyone with input to the project. Especially Abdallah Khamis Ali head of Antiquities, Khamis Juma at Chumbe Island, Mr. Emerson at the Emerson Spice hotel, Hamad Mbasouk at the Cultural Arts Centre Zanzibar and Stefanie Schötz at the Mrembo Spa and Zanzibar Different. I hope to see all of you again.

My inspiring teachers, for sharing so generously their knowledge and contacts. You make Chalmers a truly inspiring place.

Is-Haka Lada, Abuys Criss and the keepers of the keys to the baths for being both helpful and patient. I will always remember you.

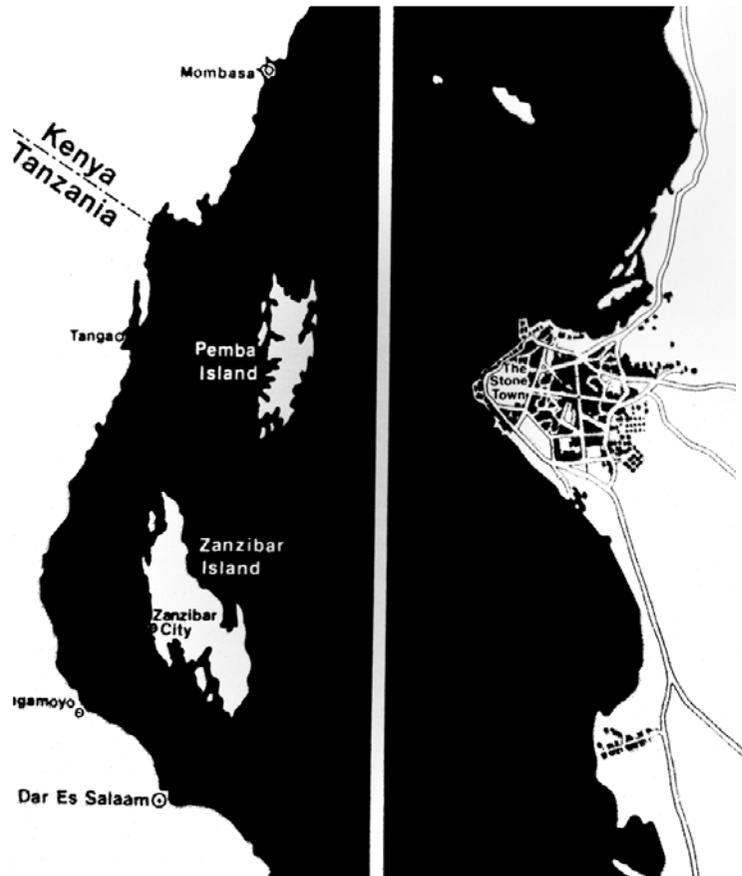
And Mama Abla, I miss the urojo.

Four focus issues have been chosen that place the Hamamni Baths in the context of Zanzibar today. In addition, the history of Zanzibar is presented briefly.

Zanzibar and Stone Town

- 1 The built heritage
- 2 Tourism and identity
- 3 Maintenance and funding
- 4 A call for using rainwater

CONTEXT



UNCHS 1983

Zanzibar and Stone town

Climate

Type: Tropical Monsoon

Average temperature: 25-29°C

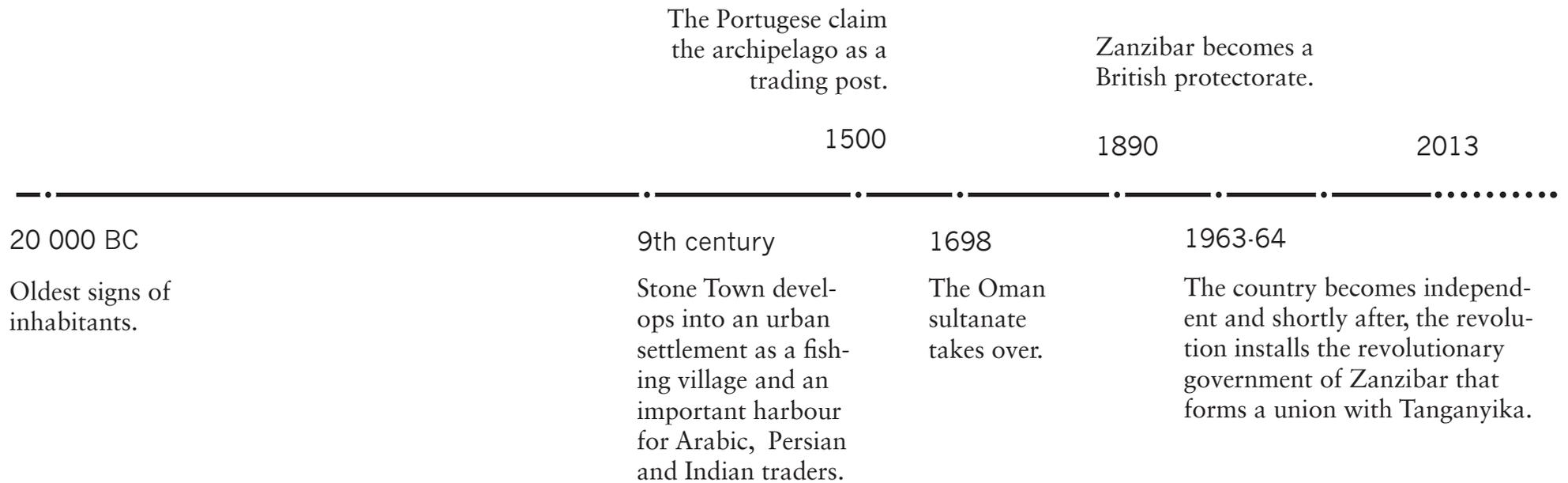
Lowest and highest recorded: 19-39°C

Days of rain in a year: 67

Stone Town

Most of the urban shape dates from the middle of the nineteenth century. Although then, Stone Town was full of huts and smaller houses, with only the elite having the required resources to use stone. (Cunningham, 2012)

A time line on the next page shows the development until today.

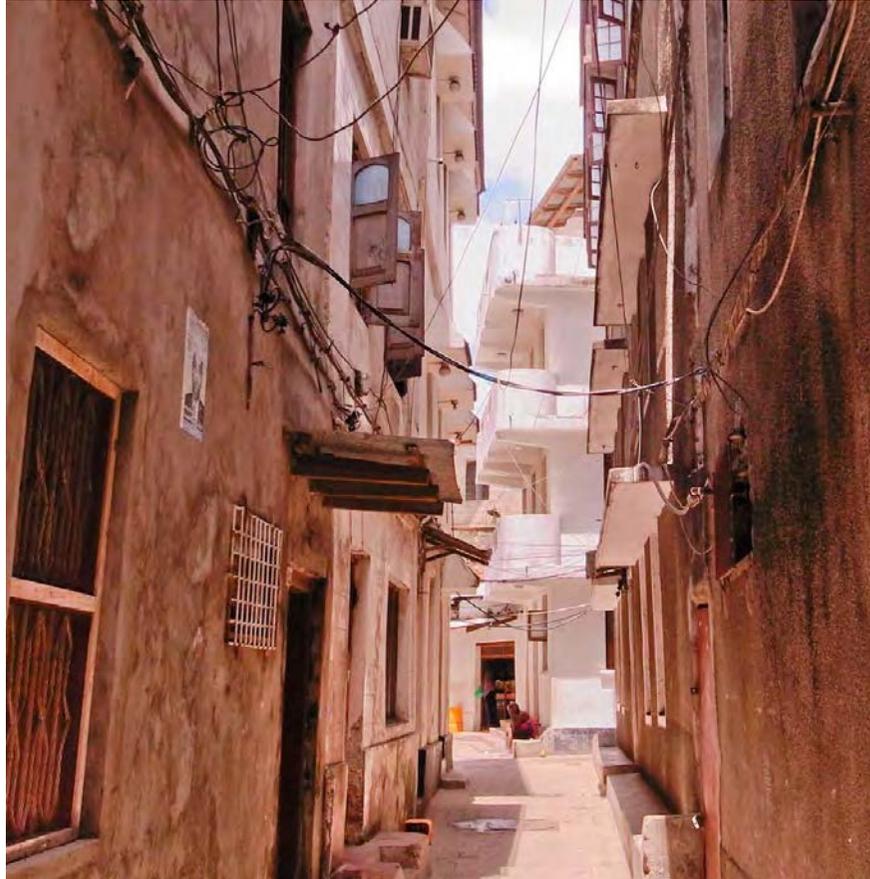


Zanzibar time line

(Cunningham, 2012; Syversen, 2007; Wikipedia, 2013)



The winding streets and alleys.



Additions of modernity is evident in many places.

Focus 1: The built heritage

Zanzibar Stone Town consists of 2400 singular buildings whereof 1700 are inhabited and the rest are either government buildings, religious buildings or shops and workshops. A total of 259 buildings are graded monuments to which varying amounts of restrictions apply (Heritage Management Plan, 2008).

Users and use

Tourists are one of the key users of the world heritage site. This brings a commercial value which is an opportunity but also a pressure to adapt buildings which is seen as a threat to their historical status. (Heritage Management Plan 2008). The economic use of the built heritage is also an active part of the role of the Department of Antiquities, in charge of major monuments among other buildings (Hamad, 2013).

Acknowledging local communities as key visitors to the world heritage site is also important in order to cater for their needs such as domestic shopping or public space and other financial activities not related to tourism.

Other reasons to maintain the built heritage is for future generations to have access to it. Part of this is to ensure that it supports the community in education and that it benefits all parts of the community. It is also preserved to be accessible to researchers, that come to study the fabric of history (Hamad 2013).

Graded buildings

Conservation requirements are divided in two categories according to the historical importance of the building in question. Internal changes are permitted to Grade

two buildings whilst the policy applied to Grade one buildings states that no exterior or interior alterations is allowed which will compromise their historical and architectural integrity.

The Hamamni baths belongs to the 29 Grade I buildings. Other grade one monuments have been restored one after another and put to use as museums whenever external funding has been supplied.

Relation to the baths

A place where the past use of the building is so clearly possible to interpret today, can stand as an example of active use and conservation.

“The Stone Town of Zanzibar is a fine example of the Swahili coastal trading towns of East Africa. It retains its urban fabric and townscape virtually intact and contains many fine buildings that reflect its particular culture, which has brought together and homogenized disparate elements of the cultures of Africa, the Arab region, India, and Europe over more than a millennium. “ (UNESCO)

Focus 2: Tourism and identity

Although some streets are still left largely unvisited by tourists, the whole of Stone Town is undeniably changed by their presence. The gradual expansion of tourist oriented shops and standardised hotels threatens to transform the old city into an urban version of a museum shop, with its inhabitants as employees. The people will come to look rather than meet and once this has happened, the inhabitants will have lost part of the qualities of life that undeniably belongs to them. Never the less, the local culture and built heritage is a big part of the attractive power of Stone Town and has to be presented in a true but also accessible way.

Identity

Conservation is an important issue in Stone Town but there is also a need for development of the society. Therefore the Stone Town identity cannot be confined to the preservation of the old. There is instead a need to build and inspire to an identity of

today. This could be an ambience of place rather than just uniqueness. This is indeed recognized as a key to attracting visitors (Aitken Kavaratzis)

Effect of tourism

The June 2008 Strategic Conservation Plan states that “Tourism is to providing access to the world heritage site for a wide range of domestic and international audience. However, tourism can also be not only in conflict with the needs of local communities but also detrimental to the fabric of the world heritage site.” It is also noted that in order to increase the now minimal contact between local communities and the tourists and to have people stay longer, Zanzibar Stone Town needs to diversify its pool of tourism products and also market programs that directly touch peoples’ daily lives. (STCDA Strategic Conservation Plan, June 2008 draft) The government also discourages further hotel development within the Stone

town in order to contain the pressure on this heritage site. (Heritage Management Plan 2008)

Objective 23 in the Heritage Management Plan address a need to strengthen mutual linkages between the local community and tourism establishments. There are many ways to do this, of which examples are employment of locals or seeing local culture as part of the attraction of tourists.

Relation to the baths

With activities such as professional massage becoming accepted within local culture and the large spaces to spare on top of the building, it can provide links between visitors and residents through use of the same space or activity.



Tourists exploring the genuine Jaw's Corner.



Focus 3: Maintenance and funding

Following the revolution in 1964 and the overthrowing of the sultanate, the ownership of buildings changed and without resources or structured ownership they fell into disrepair due to misuse and lack of maintenance. From the mid 70s, the city saw a devastating amount of deterioration and subsequent collapse of many buildings. Under pressure from UNHabitat and then UNESCO and with support from external actors, the imminent catastrophe was averted and the local capacity to take care of the built heritage has been gradually strengthened. Funds were released from the government at the end of the 1980's to start conservation work of the monuments. (A guide to Hamamni baths, 1993) The restoration of the built heritage is however still heavily dependent on external funding. (Hamad, 2013; Said 2013)

Ownership

Ownership of the buildings in Stone Town is mainly divided between the government and the Wakf, managing one fourth of the

building stock each and private owners in control of the other half of the building stock. Of the private owners, most are locals but an increasing number of foreign investors exist. (Heritage Management Plan 2008)

Lack of resources

A big problem with the restoration of old buildings in Stone Town is that there is no money to maintain them once they are restored. Therefore they fall into disrepair again and the cycle has to be repeated. Putting them to use and creating an income is a way to avoid future collapse. Tourism is seen as a key actor in this context. (Heritage Management Plan 2008; Hamad, 2013; UNHCS, 1983)

The resources available to the Government and Wakf are inadequate to maintain the historic parts of Stone Town in a sustainable way. A scheme for addressing this issue is outlined in the Strategic Conservation Plan and involves inviting business interests as partners in rehabilitation and development

projects. Other sources echo this and add that it develops the society to involve the private sector together with NGO's and the public sector.. (Said, 2013; UNHCS, 1983, Heritage Management Plan 2008)

Obviously there is a need to gradually transfer the funding of maintenance and restoration to local actors, not least because of the risk of withdrawal of funding in the wake of the financial crisis. There is also a tendency to rely on the external funding to an extent that some restoration projects have been abandoned from time to time due to lack of stable funding. (Said, 2013)

Relation to the baths

The relatively good condition of the building and the obvious possibilities of use will help finding funds for a restoration and revenue for maintenance.



Braced walls of collapsing house.



The House of Wonders under restoration since long.

Focus 4: A call for using rainwater

Zanzibar has a remarkable capacity to supply its inhabitants with water. This source of fresh water played a vital role in the establishment of Zanzibar as a trade node and a sustainable supply of fresh water is undeniably one of the keys to further development of both tourism and social aspects of the local economy. (Zanzibar Vision 2020; ZSGRP 2010)

Water scarcity

However, water scarcity is a reoccurring problem and the groundwater levels are shrinking due to changing rain patterns (climate change) and excessive extraction and the clearing of forests that has long been part of human presence on the island.

Intentions to promote rainwater

The seasonal lack of groundwater and distribution related shortages shows the need to use supplementary sources of water. The Zanzibar Water Authority, ZAWA, has

stated that in order to ensure a reliable and sustainable supply of fresh water to their customers, there is a need to promote the use of locally harvested rain water.

Simultaneously, the demand for water is growing as a result of the growing population, changing lifestyles and an expanding hotel sector. Therefore there is also a need to promote careful attitudes towards the use of tap water among the ones that have access to it, such as tourists or the wealthy or those with private wells. (ZAWA, 2013)

Relation to the baths

The building was constructed to collect and utilize rainwater for its unique qualities together with soap and for its religious significance as pure.

The history of the Hamamni Baths, its use and the influences that shaped it are all sources of identity for any future activity in the building. These are presented as an inspiration to such ventures.

Furthermore, a mapping was done, producing drawings of greater accuracy than previously available. These should facilitate the assessment of available space and future possibilities of adaptation.

THE BUILDING

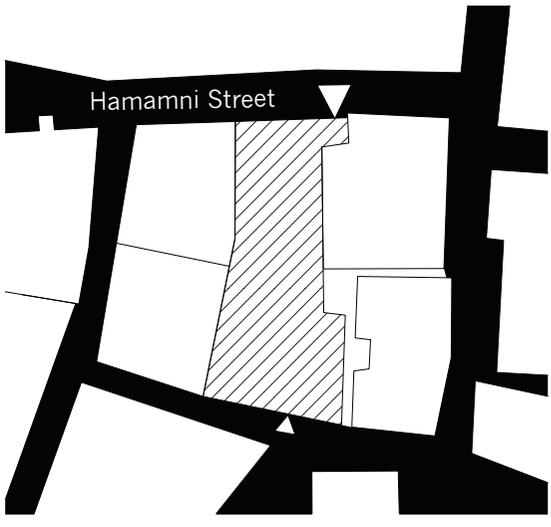
Location in Stone Town



Zanzibar Stone Town



The neighbourhood



The block and the bath



Hamamni Street from the West, with the baths to the right .



Interior of the cool room, with the entrance opening up to the left.

History of the building

The bath houses on Zanzibar Island were all introduced by the Arab sultan rulers in the nineteenth century. Of these, only two remain in good shape while the others (around eight in total) are historical ruins.

The Hamamni Baths were commissioned by the Sultan Barghash bin Said, who reigned 1870-1888. His reign was short, but one of luxury and like his father before him, he had a taste for palaces of which few went without

a bath. The Hamamni however was one of only two baths to be built within the Stone Town (the other one belonged to the palace at Forodani and does no longer exists). It was also the only one open to those not in the sultan family.

While the bath is called Hamam, the whole surrounding area came to be called the Hamam-ni or “The place of the Bath”.

This is why the bath is now referred to as the Hamamni bath and the entrance street is Hamamni street.

The bath was closed in the 20’s or 30’s but the exact reason and time is not known. Since then they remained empty except from the unofficial use as private residence until 1979 when they were declared legally protected and later restored as a museum.

The baths are closed
1920-30

Once again, the building
is in a state of disrepair.
2013

1870-1888

Sultan Bargash reigns
The baths are built

An extension is planned but
the idea is abandoned.

Late 1980’s

The building is restored
from a state of disrepair

(Data from A Guide to Hamamni Baths, 1993; observations)

Maintenance and disrepair



Early 1980's (UNCHS 1983)



Around 1993 (Dep. of Archives, Antiquities and Museums 1993)



2013



Collage of facade towards Hamamni Street. (original photos: Magnus Persson, 2013)



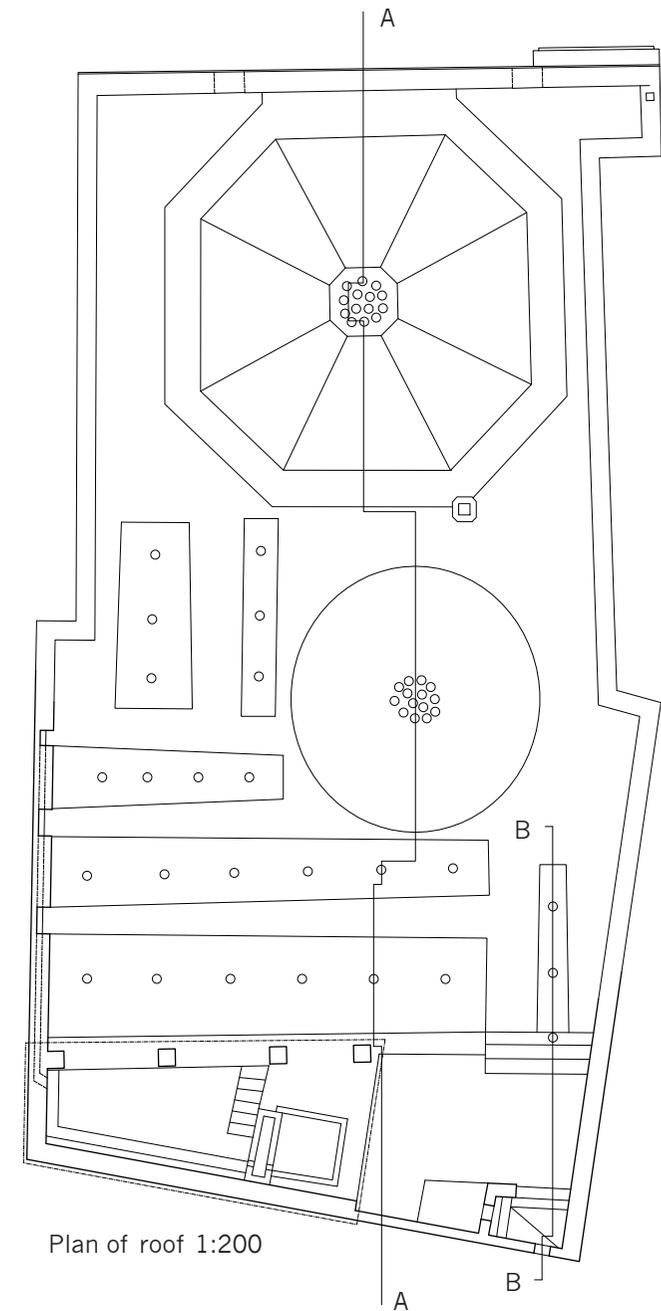
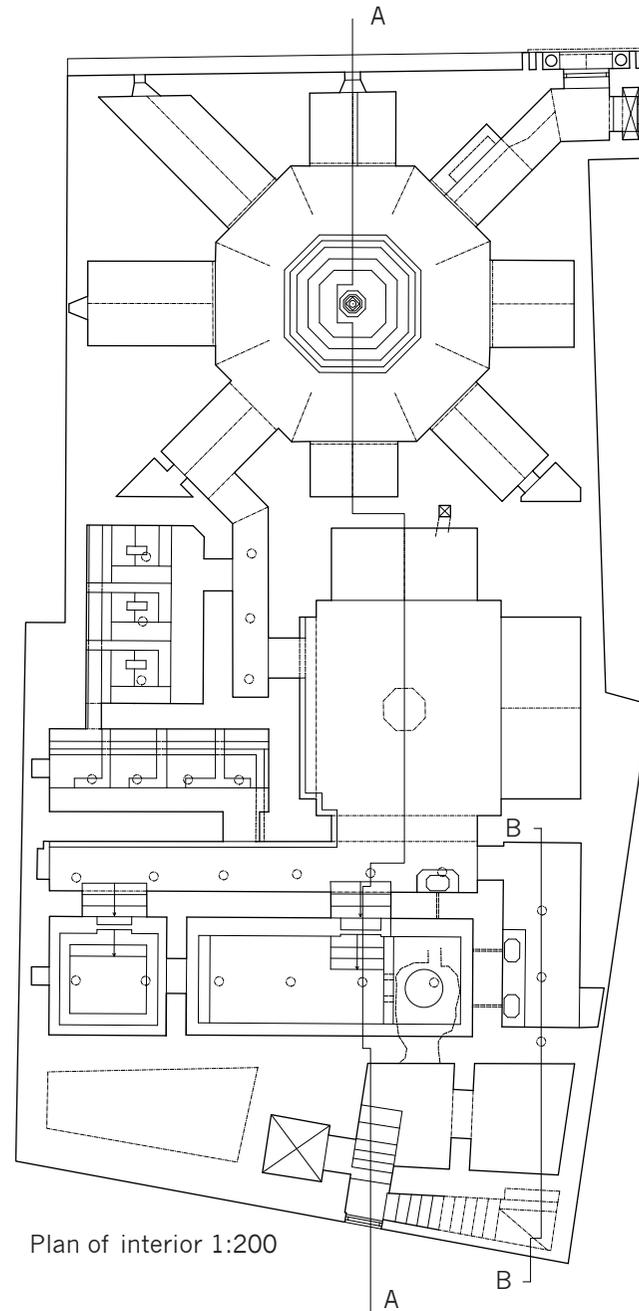
The 400 sqm roof, looking towards Hamamni Street, with the dome over the warm room closest by.

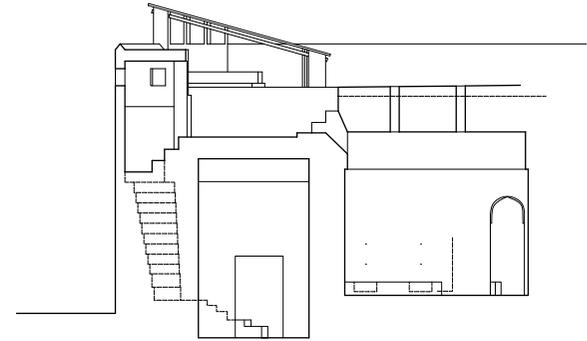


Interior from the inner corridor of the baths, with the warm room opening up to the left, a stair to the steam room pool to the right. In front, is a secondary entrance, possibly used by staff.

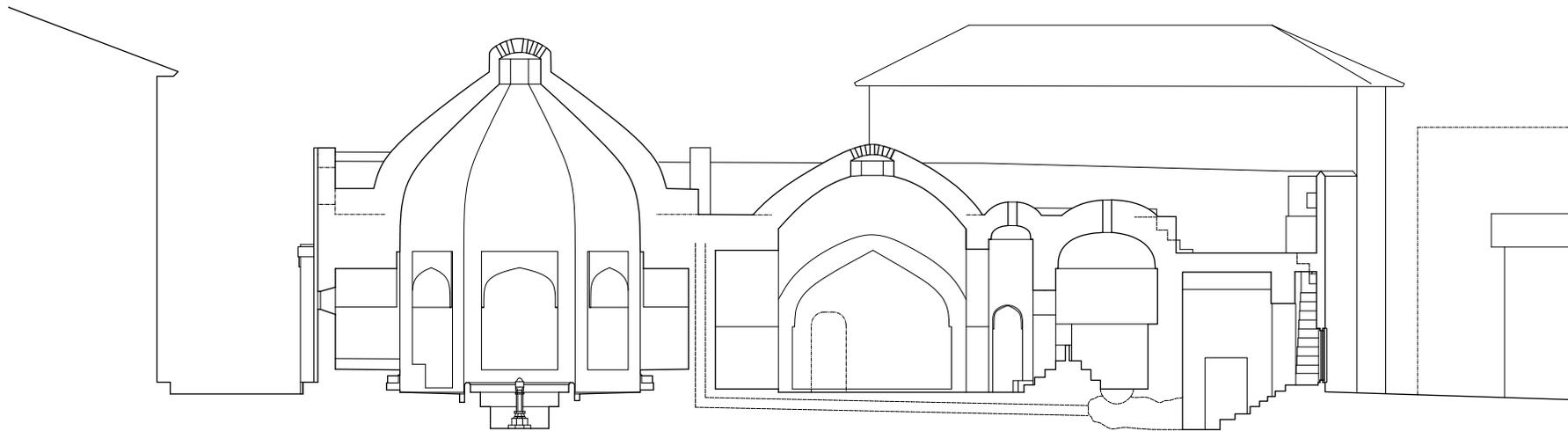
Sections and plans

Since no complete set of drawings have been accessible and the accuracy of the existing floor plan is not consistent, a new mapping of the building was done. The drawings shown here are the result of the mapping.





Section B-B 1:200



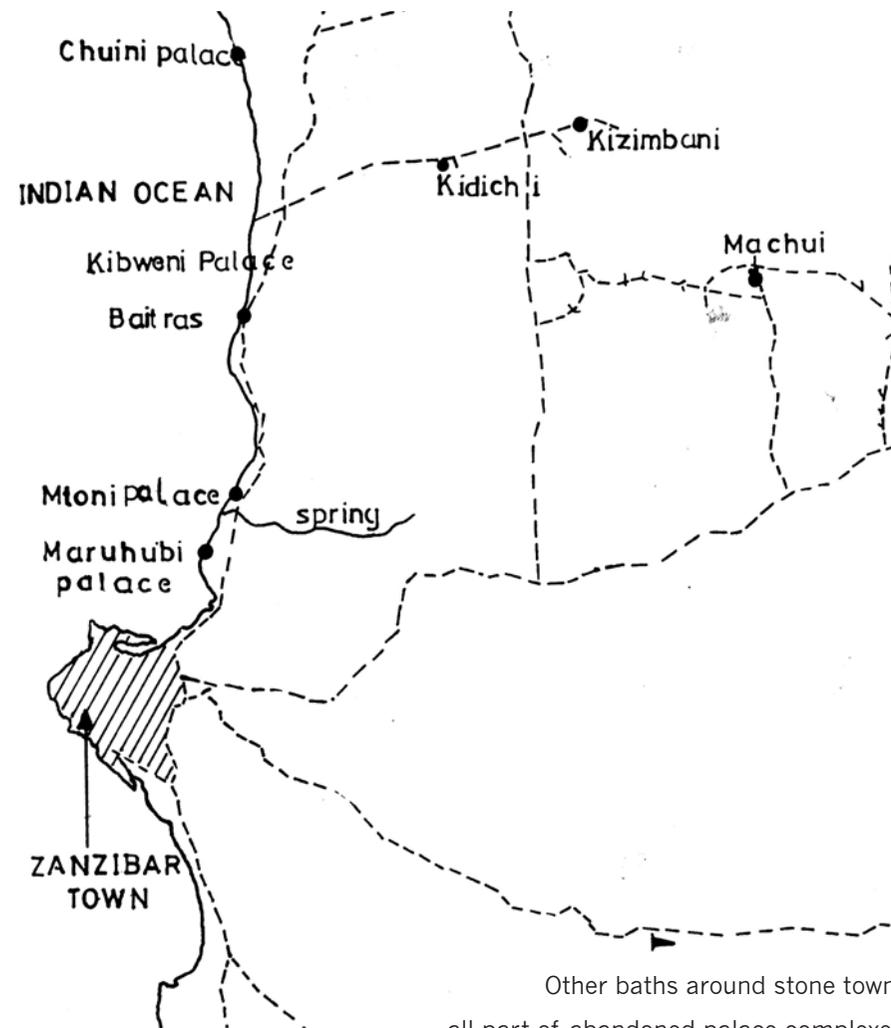
Section A-A 1:200

Other baths on Zanzibar

The sultan family bin Said constructed many palaces around Stone Town and these are now more or less well kept ruins. The baths at the Mtoni and Kidichi palaces, being well built and attractive to tourists seem to have aged better and been better maintained than the houses they once belonged to.

At the Mtoni, a private company is moving forward with plans to restore the palace and adjoining baths as part of a resort and parts of the bathing facilities built in Omani tradition have been touched up. At the Kidichi, the Persian style baths have been restored at an earlier point and now stands as a museum. (Folkers 2010)

In Stone Town, one royal bath building remained until recently, behind the former Sultan's palace. The bath belonged to the building that now houses the Forodhani Government School. It was used by princess Shehrazade, originally from Persia.



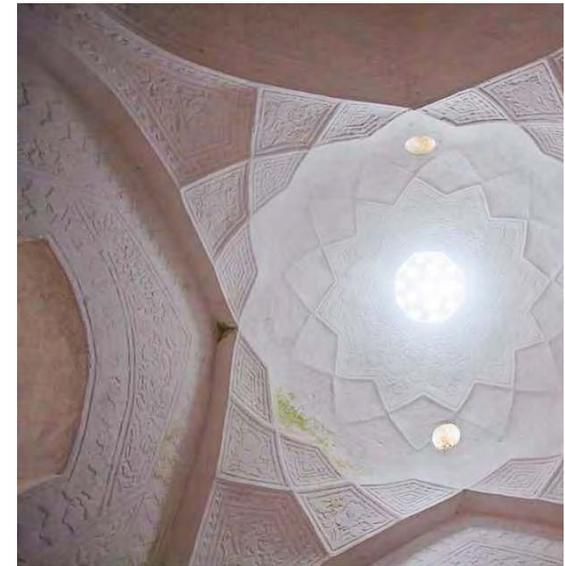
Other baths around stone town, all part of abandoned palace complexes (From a Guide to Hamamni Baths, 1993)



Interior of the Persian baths at the Mtoni palace ruins.



Walkway over the open basins of the local style baths at Mtoni palace ruins.



Interior of the Persian baths at Kidichi palace. Zanzibar Different

Influences from Persia

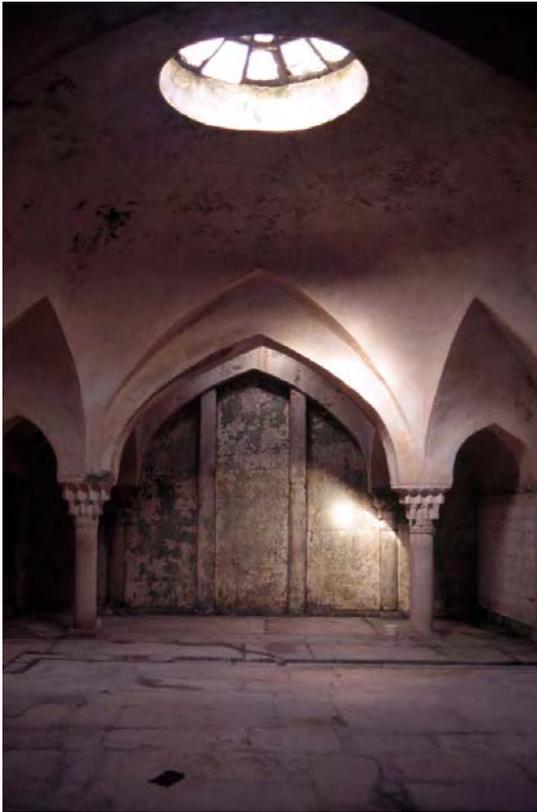
As of today, there are working examples of Turkish baths in many parts of the world. Especially in the middle east where in Turkey, they are still an active part of infrastructure. Turkey is the most widely known country to still use them but also in Iran there are examples of hamam in use.

Although close to Turkish baths in concept, the Hamamni Baths is really a Persian bath.

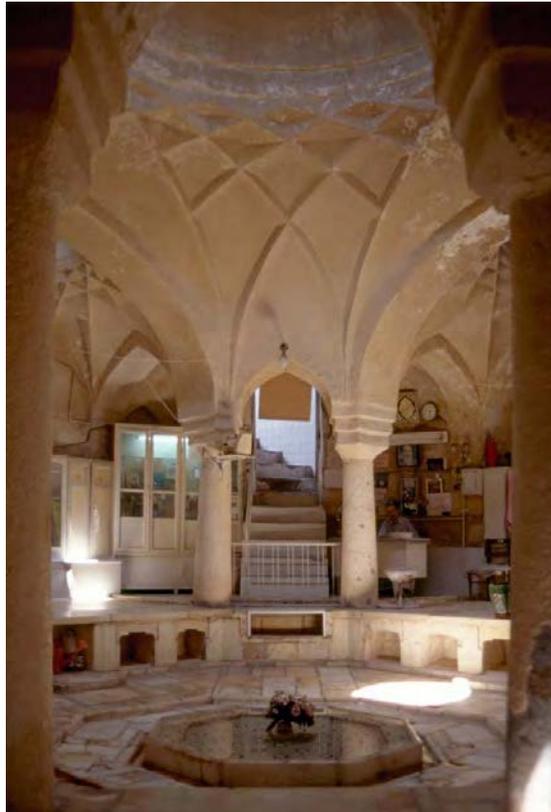
The commissioned builder was Hadj Gulamhussein from Persia who also designed one of the palace baths (A. M. Juma, 1993). The style of the bath bear the signs of Persian architecture, with decorative cornices of red brickwork (fired brick) otherwise not found in Swahili architecture or in Stone Town. It is believed that most of the architects

commissioned to design baths were either Persian themselves or trained in Persia. () Princess Shehrazade, the grand-daughter of the shah of Persia, was married to Said bin Sultan at the time many of the baths were built and these ties to Persia would likely explain the specific style.

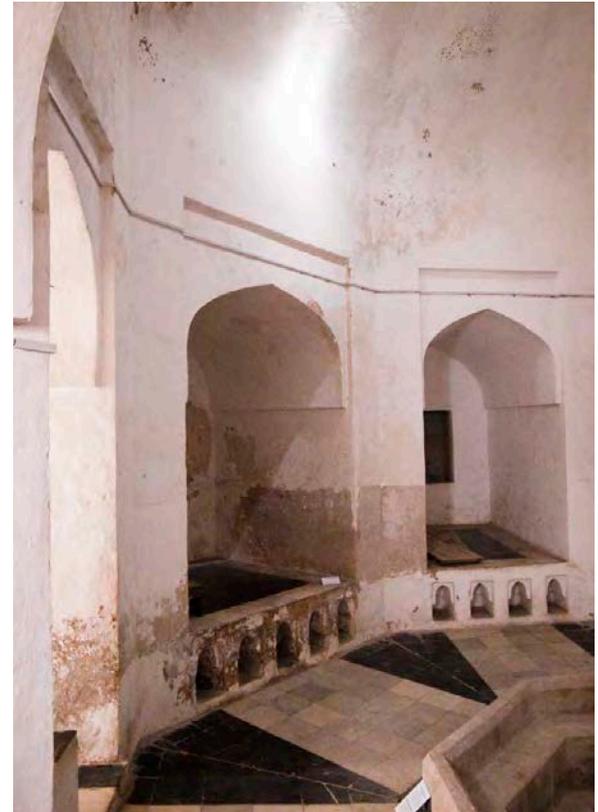
Images on next page: Interior of the Ibrahim Khan bath, still in use but having deteriorated since the picture was taken and part of the Safa bath. Both in south-eastern Iran and built early in the 19th century (Aga Khan Visual Archives). Note the matte gypsum plastered roof and columns but also the use of ceramic tiles and marble on exposed surfaces below the same height as the shift in surface material in the Stone Town Hamam, as seen in the image on the far right.



Ibrahim Khan baths, south-eastern Iran, 19th century. (Aga Khan Visual Archives 2011)



Safa baths, south-eastern Iran, 19th century. (Aga Khan Visual Archives 2011)



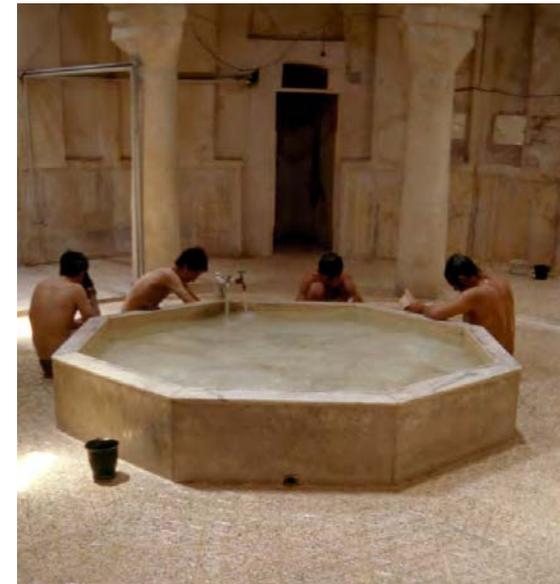
Interior of the Hamamni Baths in Stone Town.

Use

The Hamamni bath was the only public bath of Zanzibar and entrance was at a fee of 3 paisa. A considerable amount of money at the time and nothing that every citizen could afford. Little is known about how the general public related to the Stone Town Hamam (Dep. of Archives, Antiquities and Museums 1993). The many palace baths were at least very active places of meetings, ritual and leisure. Their use on Zanzibar is described in the book *M'toni*. In her *Memoirs of an Arabian Princess*, Emily Reute painted the same picture of how people would spend hours there every day. (Reute Emily, 1888).

The Islamic context would have permitted women and men to use the baths only at separate times. Both sexes did have access to them (Dep. of Archives, Antiquities and Museums 1993) but in the literature studied here, it is not clear how the time was divided. According to the official tour guide at site, women used the baths once.

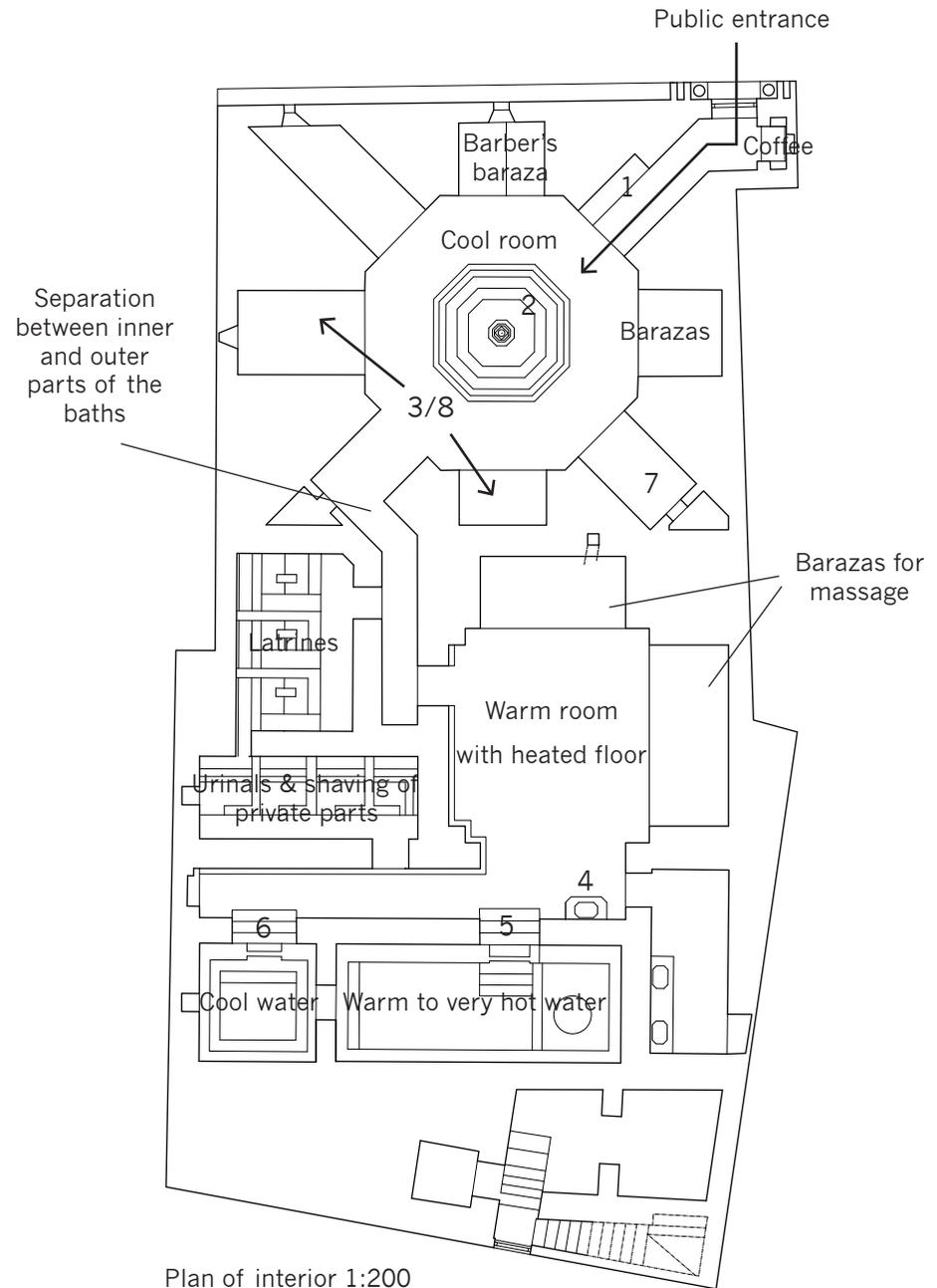
The image shows bathing men in the Safa Bath in south-eastern Iran built in the 19th century (Aga Khan, 2011). On a speculative note, it is worth saying that few other Persian hamam seem to combine the fountain with pool deep enough to enter, as seen in the Stone Town example.



Khosrow Bozorgi, 2010

Movement in the bath house

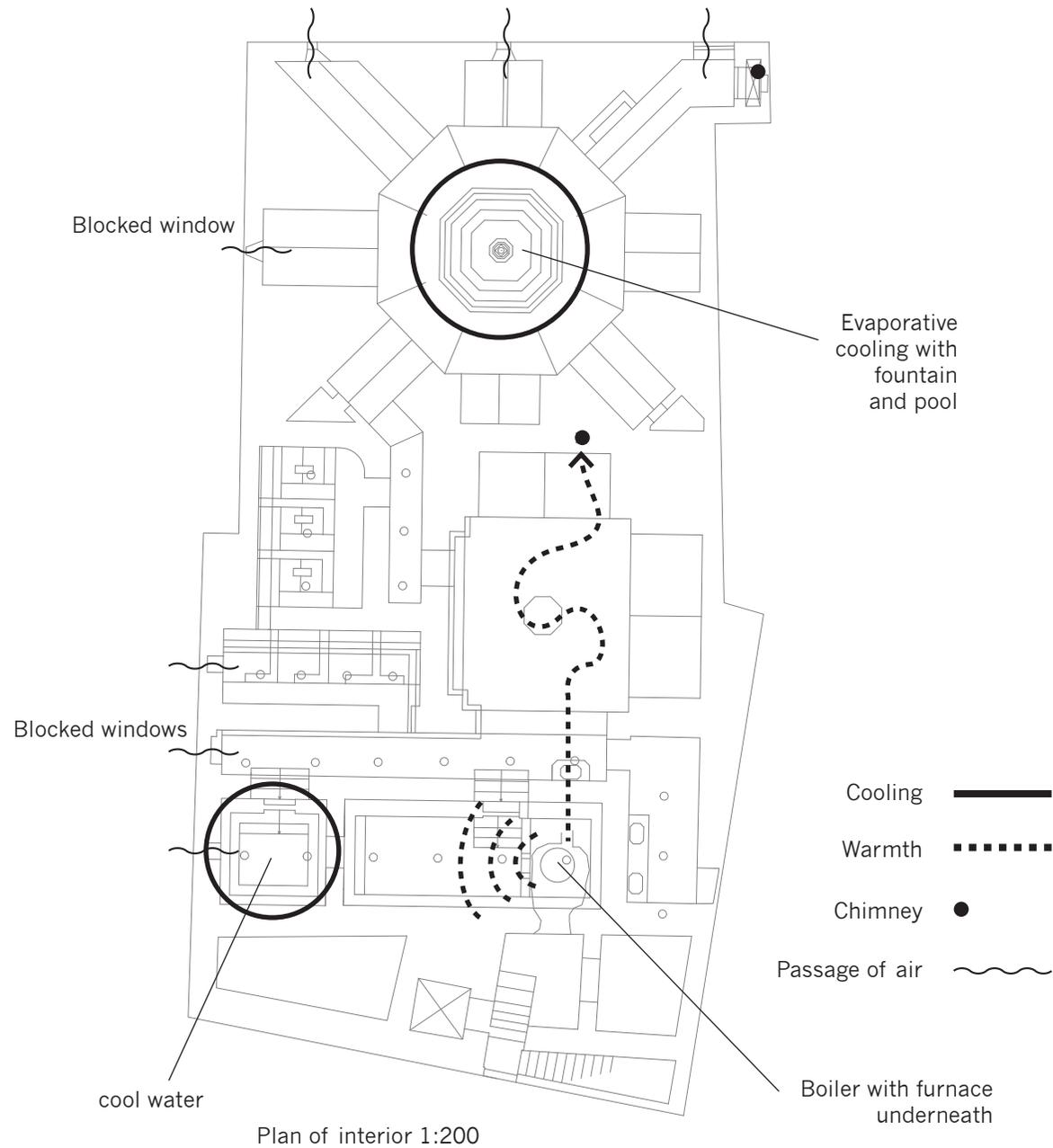
1. The Hamami collects the fee and keeps the valuables of visitors.
2. Feet are washed with rain water from the fountain.
3. Clothes were left on the barazas.
4. One washes oneself clean with a choice of hot or very hot water before entering the pools.
5. Steam room filled with hot water that gradually goes from very hot near the boiler to just hot further away.
6. A dip and sitting down in the chest-high cool water restores a comfortable body temperature.
7. Wet cloths are left on this sloping baraza and dry towels are taken from the blind window. Possibly even warm thanks to the chimney passing just behind the space.
8. The barazas are returned to for relaxing and socializing once the bathing has taken place. (Descriptions from A Guide to Hamamni Baths 1993)



Heat and air

The baths were heated with the use of a furnace under the eastern end of the steam room pool. Hot air from the fire was led under the floor of the warm room before leaving through a chimney and the floor was used to warm up the visitors before massage.

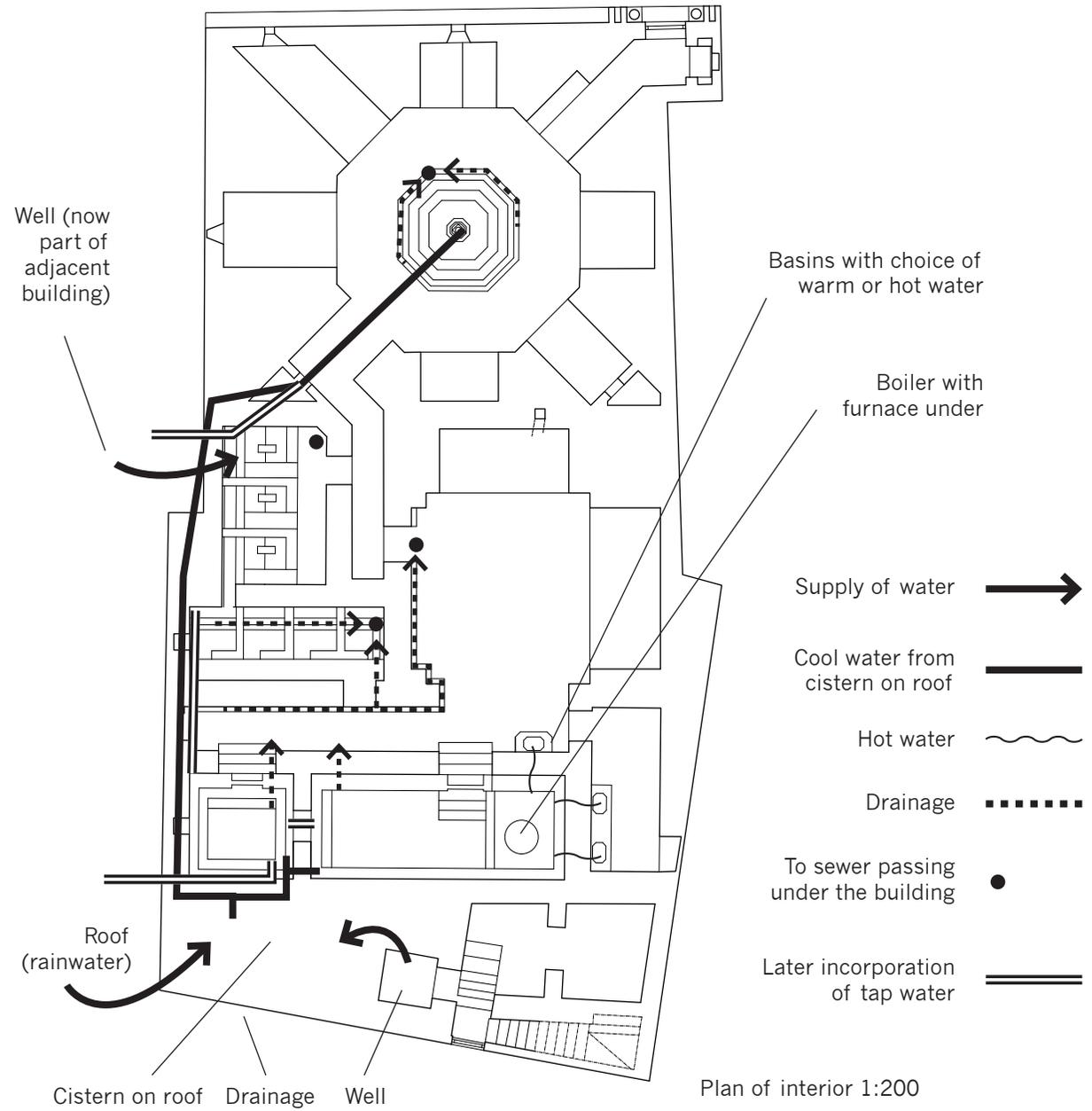
The cool room ought to have held a lower temperature than that of the outside. Both due to being shaded and because of the fountain placed in the middle of the room. Especially before the windows along the western wall of the baths were blocked by other buildings.



Water

Rainwater was collected from the roof, for use in the bath house. The reasons ought to have been twofold, both for its clean properties according to the Koran and for its chemical properties that make it easier to use with soap than the water from wells of the island. When there was no rain, water was taken from two wells. One being part of the baths and one just outside its western wall. The water was stored in a cistern on the roof, presumably to pressurize the pipes leading to the fountain and pools.

When tap water was introduced in Stone Town, new pipes were installed, carrying water to and within the bath house. The illustration shows an interpretation of how the flow of water was changed.



Old plans for an extension

There have been discussions about extending the bath house to the east, as shown in this plan. Information hasn't been found about when or why the plans were abandoned. Several of the changes however, could stand as inspiration or a proof of concept when discussing whether the baths should be allowed to be modified.

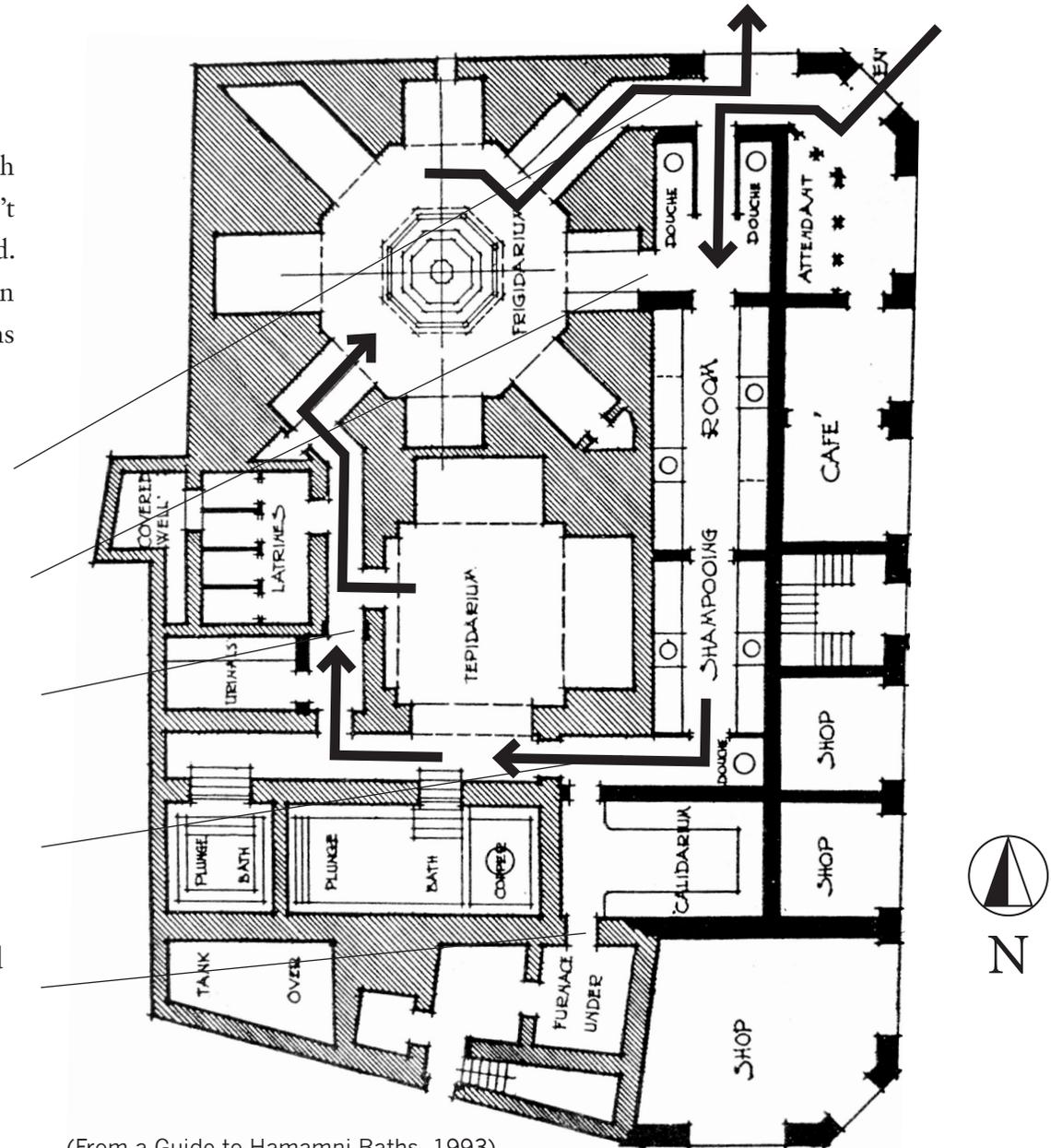
Entrance moved

Modification of baraza to an opening in outer wall.

Continuation of first corridor into the second, allowing passage without entering the warm room.

Opening in outer wall of bath, with access from new shampooing rooms.

Opening in wall towards the firewood store, with the laundry room being transformed into a sauna.



(From a Guide to Hamamni Baths, 1993)

Four different questions and how others have solved them form case studies that support the idea of a transformation. The conclusions also serve to inform the design process.

CASE STUDIES

What kinds of facilities are needed?

For input on how a spa works, I met with Stefanie Schötz, running the Mrembo. The Mrembo has a small spa in the middle of Stone Town. It is a place where traditional knowledge and locally grown herbs is at the heart of what is offered. It is an example of a spa just slightly smaller in size than the parts of the Hamamni Baths that were once used for relaxing and massage. It is also one with a touch that fits well with the idea of connecting to history, visitors and modern local inhabitants.

Facilities and staff at the Mrembo

Visitors first encounter a big room open to the street. the room serves as a multifunctional space for meeting customers, preparing herbs and as a small shop. It is filled with herbs, soaps and spices and there is room to sit down for tea. Both here and outside in the narrow street there's room for preparation of herbs. It appears to extend the qualities

of the spa to the street and the whole place smells of flower and spice, creating a good advertisement. The spa has 4 massage tables. They are placed in 3 different rooms with one room used for couples. Apart from this, there is space to shower and there are bathrooms.

All in all, 10 people work at the spa. with treatments, massages, preparations and tending the shop.

Suitable activities for the baths

Discussing future uses of the Baths we listed many of the original activities as suitable even today. Juices, a barber or henna painting and plaiting are examples of services that were offered and that would work well today. There are also examples of treatments that would even benefit from the heat of the warm room, such as the flower scrub “singo” or the more robust “vidonge”

which involves being scrubbed with a coarse ball of dry pressed clove buds. (Interview with Schötz)

Conclusions

The contact with tourists that are open to experiencing traditional aspects of Zanzibar culture is encouraging. Targeting such a group of visitors would facilitate the combining of both visitors and locals as users of the building.

It also seems that parts of the bath could indeed be suitable for a spa even in their original shape.

Both showers and bathrooms would be required additions to the baths. Separations of space is an other issue.

Would locals use a bath?

Today, the act of bathing to become clean is a private activity for most Zanzibaris and the kind of bathing culture that Hamams belong to, with public facilities for that, do not seem to exist, neither does the institutions that goes with it.

Spas and massage

There is no direct cultural connection to spas on Zanzibar but a long tradition of beauty treatments. Henna and plaiting are perhaps the most well known. There is a tradition of massage but it is something private or between family members.

Spas however have become a more accepted activity of lately, especially massage for its medical aspects. (Interview with A Mwalim) The Mrembo spa is one example of this, and even if there are not many local residents that use the spa, they exist. At the spa, they employ different fees to cater for visitors with different economy. Locals, domestic

tourists and regular tourists. Another example is the private hospital at Gambiani, that offers subsidized massage to those with little money. (interview with A Mwalim).

Acceptance of the idea

In a brief survey, I described the possibility of a bath with small pools, showers and massage. A majority said that they would indeed use such a bath.

According to Stefanie at the Mrembo one shouldn't overlook the fact that more and more Zanzibaris adopt parts of the western culture. Going to cafes for a coffee is an example of that. Maybe not as an everyday thing but to treat themselves to something. So the acceptance to new cultural experiences might be there.

Other ways to include locals

To find ways to include a broad local group of people in employment, is an issue that Stefanie at the Mrembo is also pressing. That many of the employed at the Mrembo are blind is one example.

Conclusions

That locals would use that baths should not be ruled out. By making a part of the baths easily available on a regular basis would be a way to meet the existing interest.

Also a Spa in the Hamamni Baths would eventually be used by some locals.

Cost is an issue in both cases. Providing a flexible amount of service from the facilities would be required to include locals in the target group.

Can utilitarian goals make money?

It is of course very costly to restore the baths and to include the local community in its use can be both a way to motivate public funding and something that part of the possible revenue should be diverted to. In either case, it would be important to find a sustainable model for what ways the baths could interact with the community.

Chumbe Island resort and reserve

In this case, I am looking at the Chumbe Island resort and have interviewed Khamis Juma. Chumbe is a privately owned island with a hotel where visitors willing to pay a premium can spend time in line with nature. It is also a maritime conservation project, a base for researchers from all over the world and a platform for community support.

It is a for-profit company but not in the usual sense, since reinvestments into the conservation part of the company are substantial. The company works essentially

without funding other than that from investors. When it comes to the dual nature of the project, Khamis explains that without conservation there would be no tourists coming, and if there was no hotel to support it the conservation would fail. The first priority lies in conservation since it ensures long term sustainability with guests having beautiful nature to come to in the future.

Capacity building and empowerment

An important part of their idea is capacity building and empowerment. Capacity building would be the supply of know-how in projects but also the creation of awareness. School classes are offered free visits on the island, where they can learn about the environment.

Some local fishermen, that used the reef before it was turned into a maritime reserve now work as rangers on the Island. Some have been with the company for a long

time now and are part of how Chumbe communicates with the community. Around 60% of the staff is from the area around Stone Town.

Conclusions

Chumbe could be used as a model for the management of the baths. The reasons would be better financial stability than with a nonprofit association and possibility to provide income to a larger extent.

Subsidized visits from school children would be an entry point to the baths for the community. This should be combined with the possibility of promoting rainwater through its use in the baths.



Chumbe Island huts with rainwater collectors, solar heaters and solar cells.



Transport from Chumbe Island.

Is it allowed to change the baths?

In this case I have interviewed Abdallah Khamis Ali, Head of Antiquities, about the use of the built heritage and the idea to restore the function of the Hamamni Baths in particular. I and have also noted comments from the STCDA about their view on a transformation.

Utilizing the heritage

In the perspective of the Department of Antiquities, partnerships with both community and the private sector is an important part of sustaining conservation. The most important reason is lack of resources. By finding a good use for a building that needs restoration, is a way to support both government and community in terms of rent and employment.

Adapting the Hamamni Baths

In the case of the Hamamni Baths, there have already been suggestions of restoring them for various purposes, ranging from

music studio to gallery. The building has also seen some different uses such as being art of a festival not long ago, when electricity was sporadically installed for simple lighting. This far, the suggestions have either not been suited to the baths or not been followed through but according to Ali, it is quite possible to allow a new use. It should however be well suited for the building in terms of character and function, to present the historical value of the building and to preserve its construction.

The description of grade one buildings state that no alterations are allowed that compromise their historical and architectural integrity. In the case of a transformation of the Hamamni Baths, this would at the very least mean minimal and largely reversible alterations. To the furthest extent, adaptations should be solved using non-permanent solutions. In discussing ideas for the Hamamni Baths, I have described

the idea of making two new openings in interior walls, adapt the original latrines and urinals for use as WCs and showers and otherwise mainly using movable furniture. This would be motivated with the intention of making the historical value of the building more accessible as well as making a sustainable maintenance possible. According to the STCDA, this could be described as conservation and would presumably be a possible path.

Conclusions

The overall idea of minor modifications is not a dead end and assuming that the approach is right, it seems as if responsible authorities would approve a transformation.

Clear goals for the benefits of the heritage, community and government would be essential for the success of such a project.

The four focus issues are followed up with corresponding design goals for the transformation of the Hamamni Baths in relation to each issue.

Design criteria are derived from these goals, the relation between the building and its context and conclusions from case studies.

Some variations on design are highlighted here to serve as input to future discussions about the use and adaptation of the building.

A set of drawings showing suggested alterations and additions is presented as a point of departure for such discussions.

DESIGN

Design goals

The goals presented here is a listing of what a future transformation could achieve. They should be possible to use as a reference for discussing or evaluating a plan for a transformation of the Hamamni Baths. The goals are also what the design criteria on the following pages are derived from.

The goals themselves refer back to the description of the context and to the case studies conducted at site.

Focus 1 The built heritage

Need Keep the built heritage open and accessible to a wide variety of groups and put it to use while safeguarding its historical value.

Goal Visitors of the baths are immersed in the currents of history and gets a will to experience more of the many layers of history surrounding Zanzibar Stone Town.

The building as a physical part of the World Heritage is secured for future generations but also made more accessible. Its importance as a link to the dynamic past of Zanzibar Stone Town is strengthened through the addition of activities.

Focus 2 Tourism and identity

Create activities for tourists that simultaneously build on and diversify the contemporary culture of Stone Town.

The area and in the end Stone Town gains strength in its notion of being one of diverse culture and activities. Visitors of the baths gets a will to experience more of the multi-facetted reality of what Stone Town is today.

The baths have integrated activities and contributes to a growing variety of cultural and commercial activities.

Focus 3 Maintenance and funding

Find models for sustainable funding of restoration and Montanans of graded buildings.

The maintenance and running of the bathhouse is resilient in terms of reliance, by balancing external funding with commercial activity and a variety of channels for resources and expertise.

Focus 4 A call for using rainwater

Promote the use of rainwater and provide an understanding of issues related to water scarcity and distribution.

The way the building is used contributes to an understanding of issues related to the supply, distribution and use of water on Unguja. Specifically it explains the issue of water scarcity, the function of ZAWA and promote the use of rainwater as a complement to tap water for sanitation. It doesn't undermine the prospects of developing the ZAWA network.

Need

Goal

Design criteria

What is presented here is a suggestion of criteria for the physical and organisational design of a transformation. They are the starting point for the design solutions presented further on. The same criteria could also be used on their own as reference points in a discussion about the evaluation of a plan for transformation.

Focus 1 The built heritage

Focus 2 Tourism and identity

Design criteria

The experiences at the bath and the perception of it as an artefact should instil an understanding of how and by whom the building was used.

All restorations should be made with an understanding of and as far as possible use of original techniques to avoid technical damage to the building.

Restorations should be indistinguishable to preserve the historical authenticity of the building.

Additions should be distinguishable to allow an authentic understanding of the building.

Supply new functions relating to existing non-tourism activities in the area.

Relate old to young through new activities or how links to existing ones.

Have aspects that are fully accessible as public space for the neighbourhood.

Have a management model allowing flexible partnering in order to sup.

Focus 3 Maintenance and funding

Focus 4 A call for using rainwater

Cater for enough paying visitors to sustain running costs and maintenance.

Have a management model allowing flexible partnering for support.

Be able to host more than one type of (commercial?) activity.

Have a management model that connects on site expertise to the building.

Be changed in a way that do not interfere with long term economically feasible maintenance or require extensive use of imported technology.

Sources and processes are clearly distinguishable.

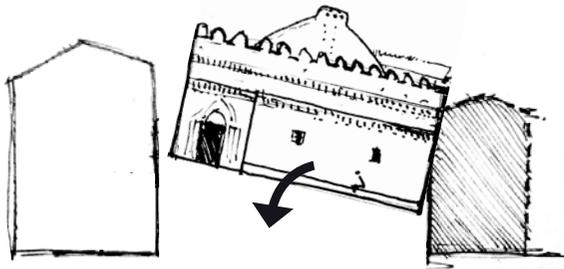
Relates the use of water to the inputs and outputs of the building.

Relates rainwater to tap water in a way that is true to qualities of both sources.

Shows the benefits of the (ZAWA) pipe network (to support the notion of paying for a valuable service).

Design
criteria

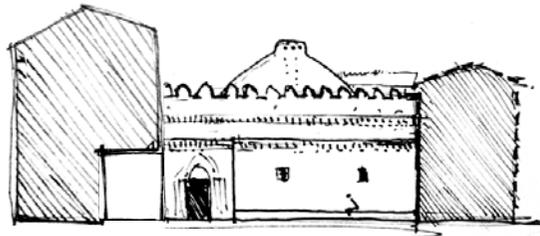
Relation to adjacent empty site



As a complement to an other function

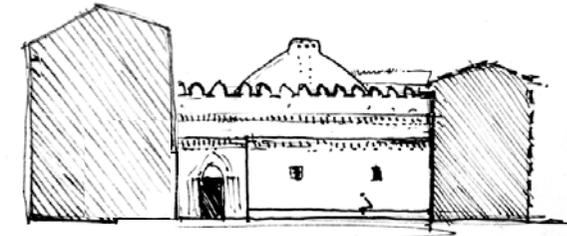
To create a functions for overnight stays or a restaurant the bath as an attraction.

Or a social project using the bath as part of its service or activities.



With a small addition

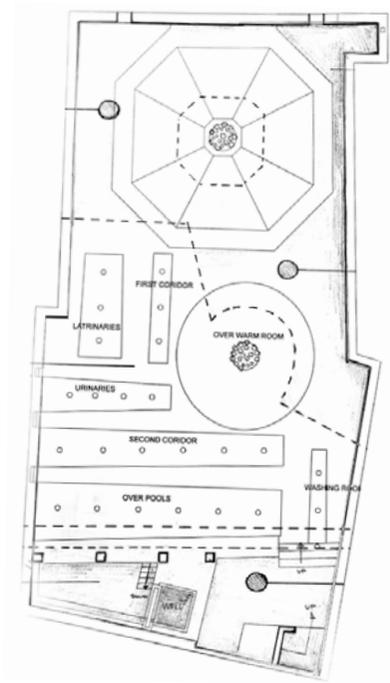
To accommodate a functional bath entirely without additions within the old building. (requires planing 60-100 m² of the new residential building for long term let to the bath)



A stand alone function

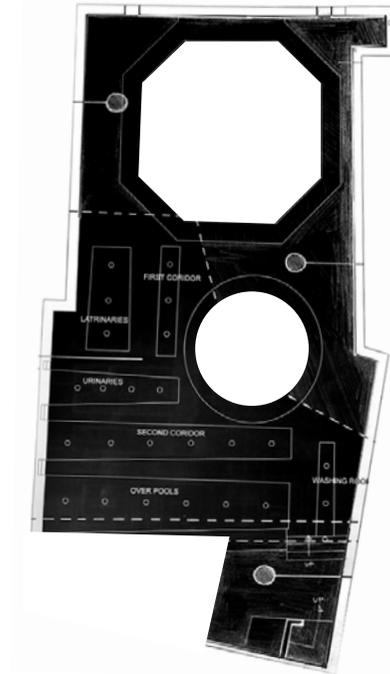
To facilitate the process, with fewer actors and uncertainties as well as to avoid making openings the outer walls of the baths.

Accessible roof



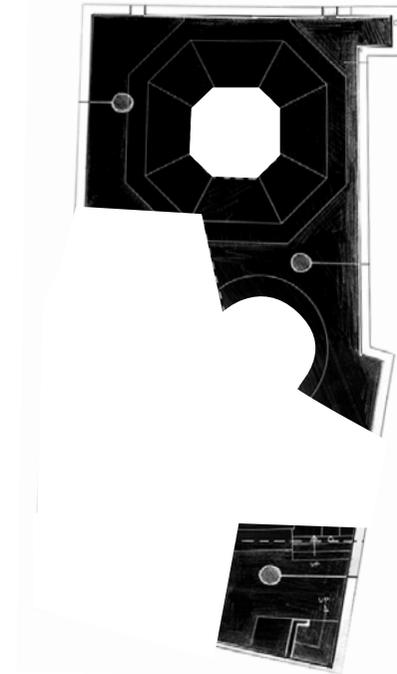
The roof

The roof is not easily accessible and certainly not used but is by far the largest open space in the area.



Potential area

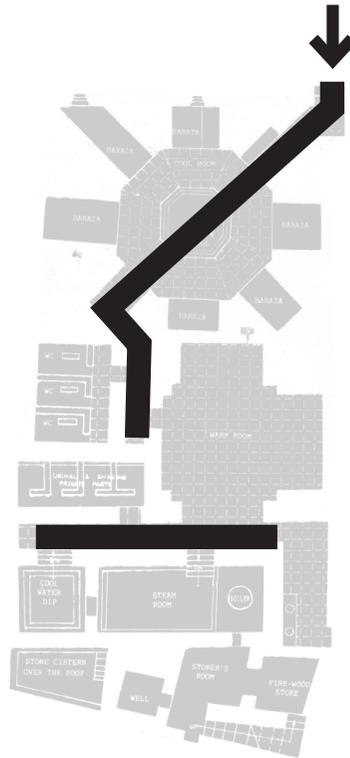
A large part of the roof is flat enough for activity. In most places,



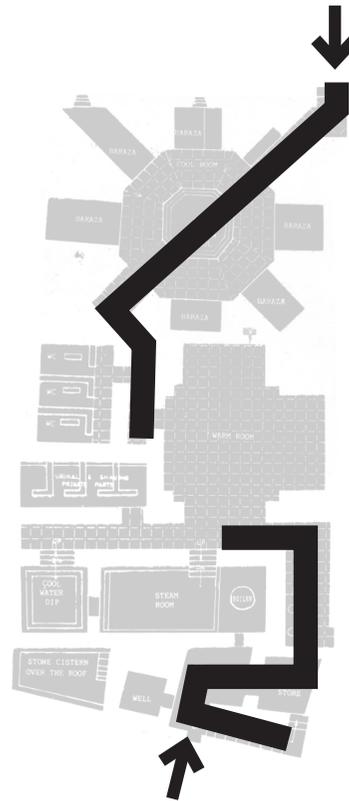
Area available for permanent use

A large portion of the roof is covered with light shafts and should not be shaded. The rest, which is marked out here could be covered with shading to provide easier use.

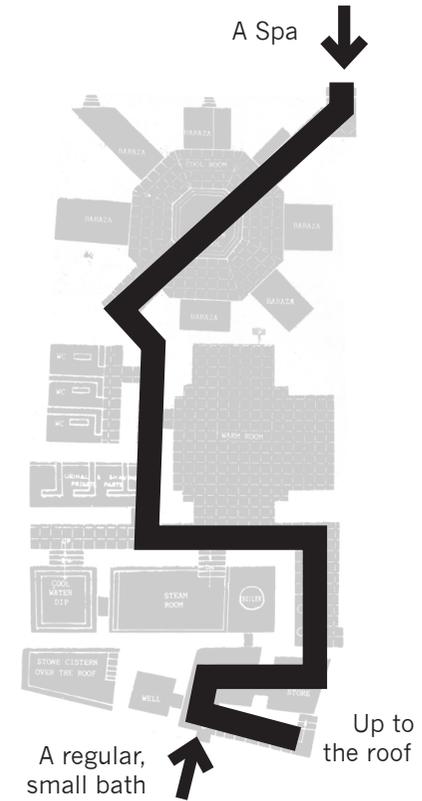
Altered communication



No modification
Communication in original plan



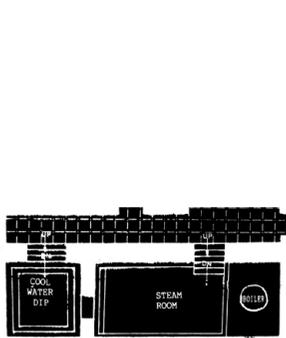
Opening one internal passage
Allowing a secondary entrance with different services, opens up for different types of user groups with different requirements.



Opening two internal passages
Making a second modification gives easy access to showers and toilets on arrival from both entrances.

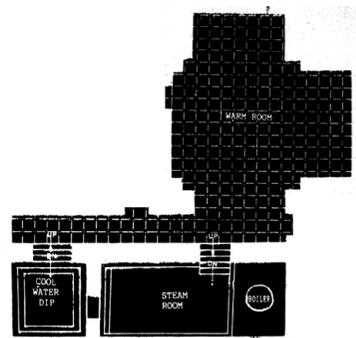
Shared spaces for bath and spa

Various definitions of the core bath functions would allow different layers of privacy or functional definition of space. Defined partitions would allow less stress on facilities for the spa with clear responsibilities for maintenance, fees and funding. Sharing spatial experiences among spa visitors and regular bathers on the other hand, while awkward for some, allows general as well as personal meetings between cultures and people. The warm and cold pools are the core of both spa visits and regular bath in all four scenarios.



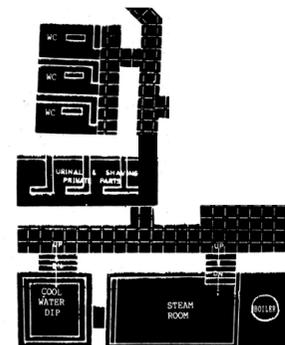
Minimum core

Only the pools are shared, making the bath as straight forward and inexpensive as possible to use for regulars. In this scenario, the roof top would probably be necessary as a spill-over relax and meeting area for the regular visitors.



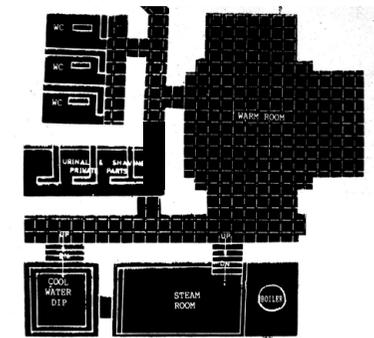
Shared warm room for massage

The domed warm room is a place for both spa visitors and regulars to relax and socialize on the hot floor. Massage or other treatments are given in the barazas at a fee.



Shared showers and toilets

Toilets and Showers are shared, making the total investment lower than if the regular visitors had the same facilities in connection to the bath entrance.



All inner parts of bath shared

All inner parts of the bath are shared, and the spa is limited to the cool room, maybe even as a complementary service, with the baths being the main function.

Additions with a light touch



Movable furniture

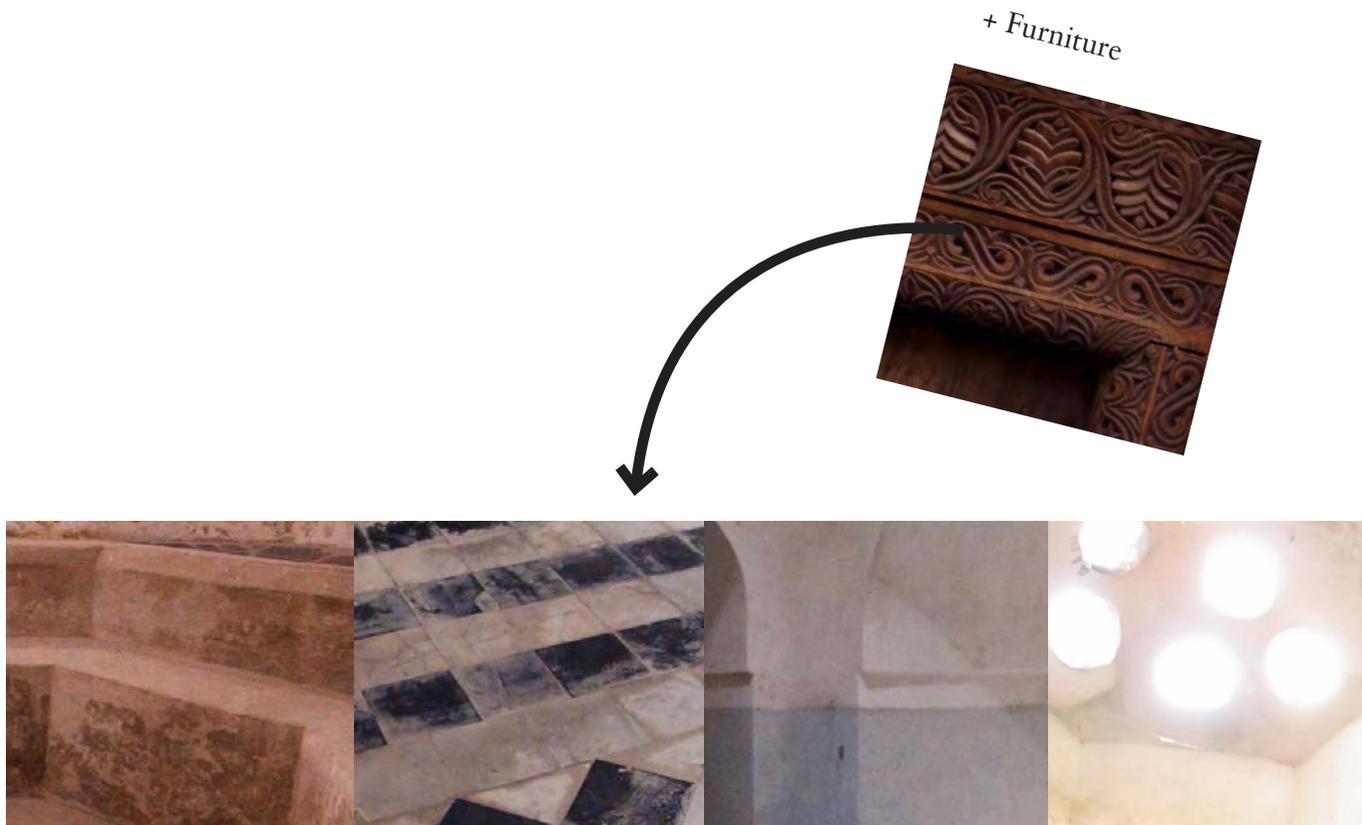
Many adaptations of the interior can be made using furniture. Adding carved wooden screens or wooden lockers supports new functions and partitions.



Textile roofs for shade

Sails of various colours inspired by the brick decorations of the building, would cover parts of the roof, adding functionality in the form of shade.





Carved furniture and identity

Carved furniture used to adapt the rooms within the baths, means that aspects of traditional craftsmanship can be utilized, adding another layer of genuine identity.

An on site lighting study

Even if electricity has been installed not long ago for events, using lanterns or even battery powered floor lamps would allow lighting to be added and the existing cables to be removed. An alternative would be to use the existing light shafts, adding portable light sources to the roof in the dark hours. A lighting study on site, in two of the rooms gives an indication of the possibilities.



Passage from day to night

Passage from natural to artificial lighting using cardboard to cover light shafts and candles for lighting.

Comparing overhead and floor lighting



Daylight scene in the old latrines.



Lighting using the same light shafts as for daylight, only now with spotlights mounted on top of the shafts.



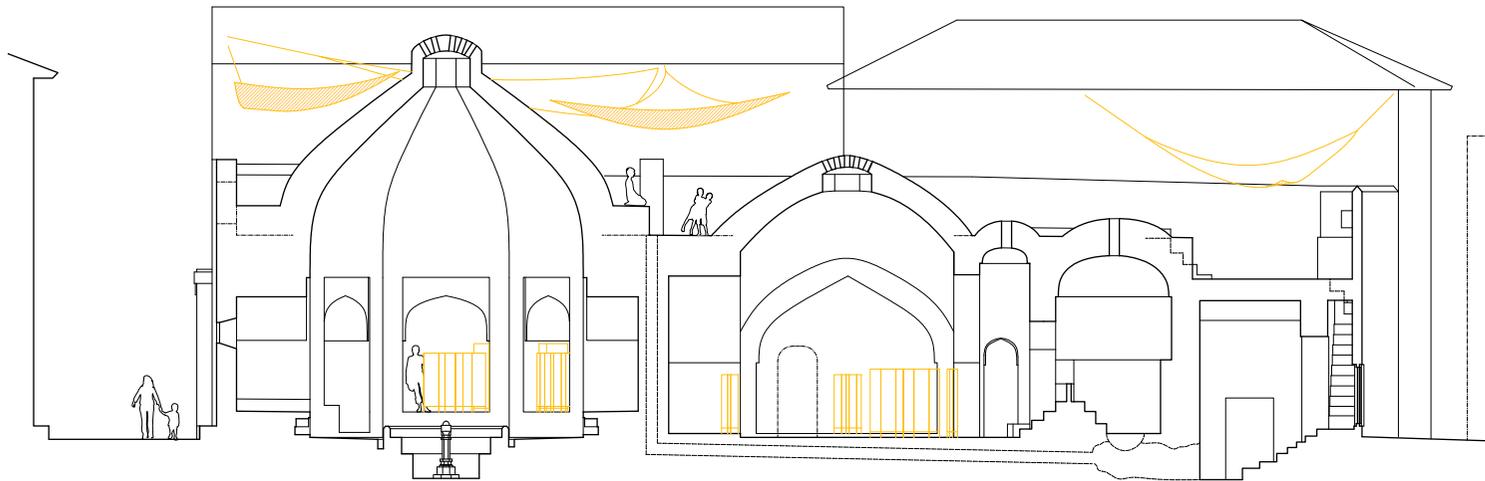
Lighting from the floor up. Shadows turned upside down after dark together with the relation to the outside world, now mysterious next to the tangible reality of the bath.

A brief proposal

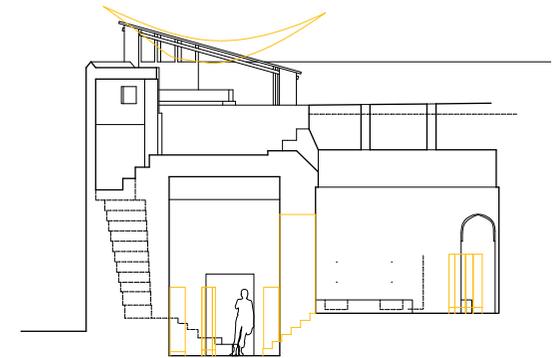
What is presented here is a suggestion of where to adjust the original structure and what activities the existing rooms could be used for. Adjustments and additions are shown in yellow.

The new Hamamni Baths

Already outside the baths there is a new ambience. Coffee is brewed on the hundred year old stove in the entrance and the vendor eagerly serves visitors and neighbours alike. In a sense, the entrance is a local gathering point again. There is an other entrance with a more everyday feeling on the opposite side of the building but here on Hamamni Street herbs are prepared on the baraza along the bath house and the street smells of both coffee and herbs.



Section A-A 1:200



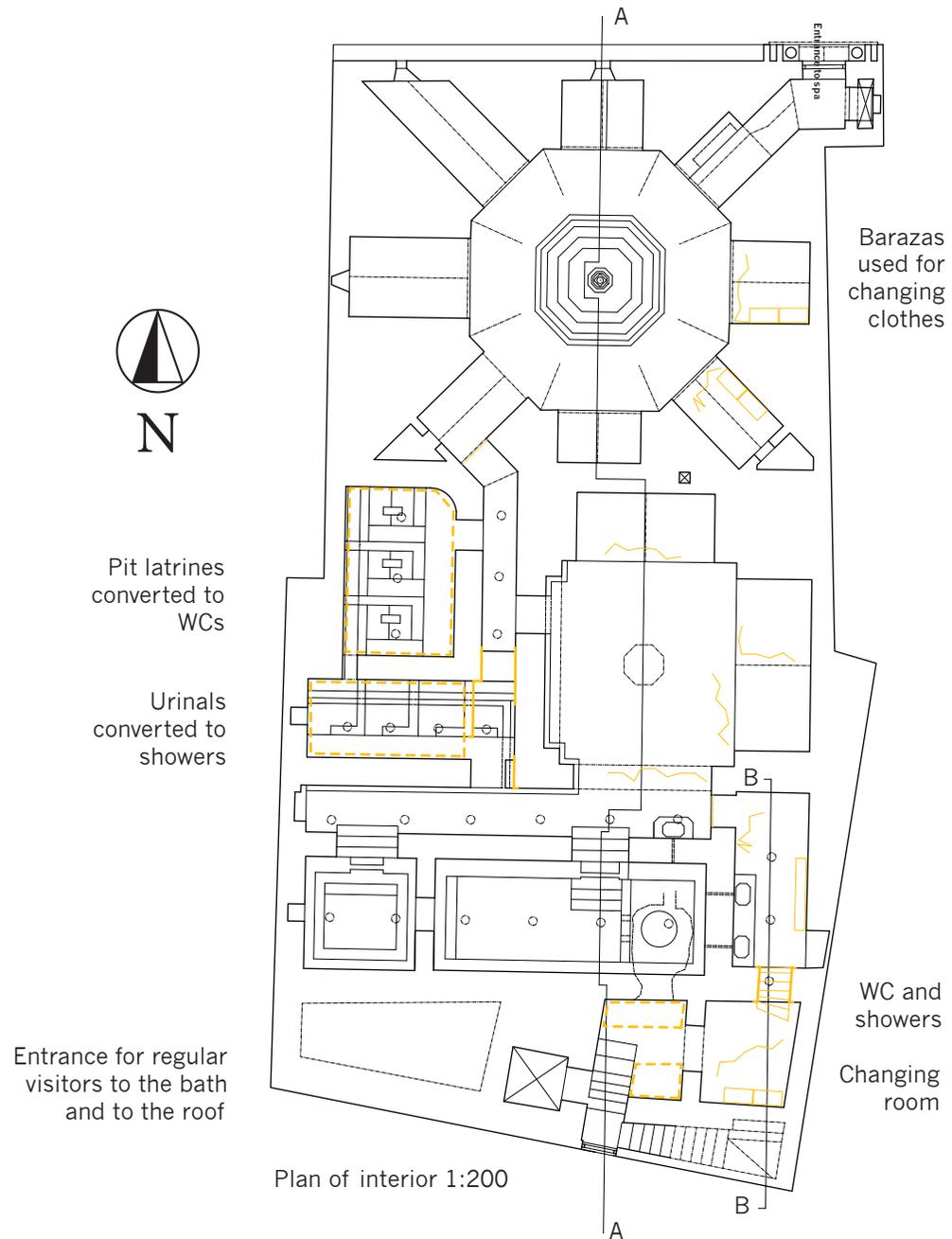
Section B-B 1:200

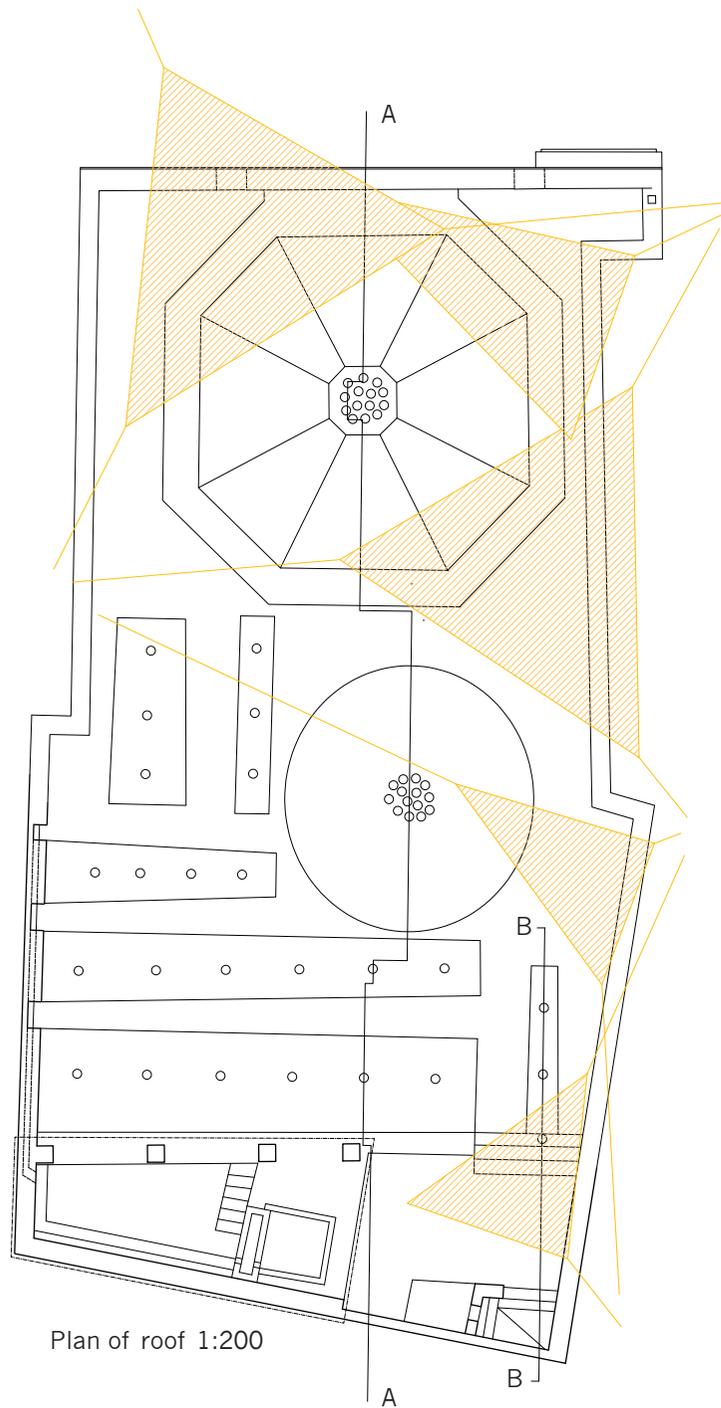
The Baths

On entering the bath as a visitor to the spa, the first thing to see is the cool room with its fountain and the magnificent overhead dome crowned by the light shaft filtering a smooth sunlight into the vast space.

An entrance fee can be paid either to the baths attendant or in advance and perhaps refreshments are served as you enter. On two of the barazas, robes and towels are found and wooden cabinets with lockers. Carved wooden screens obscure the inside of these barazas. The original open entrance is still used together with another wooden screen, shielding the view of the bathers from the street but allowing an intriguing, muted closeness to the surroundings.

Anyone set for just a bath might find it easier to use the southern entrance, with a shower and toilet just inside. There are several lockers and a place for a quick change before immersing yourself in the hot water of the steam room, calming down in the cool dip and relaxing with old friends and new acquaintances up on the roof.



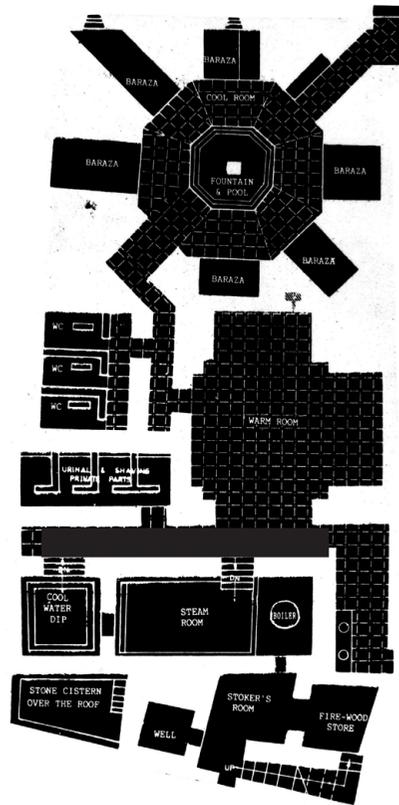


The Roof

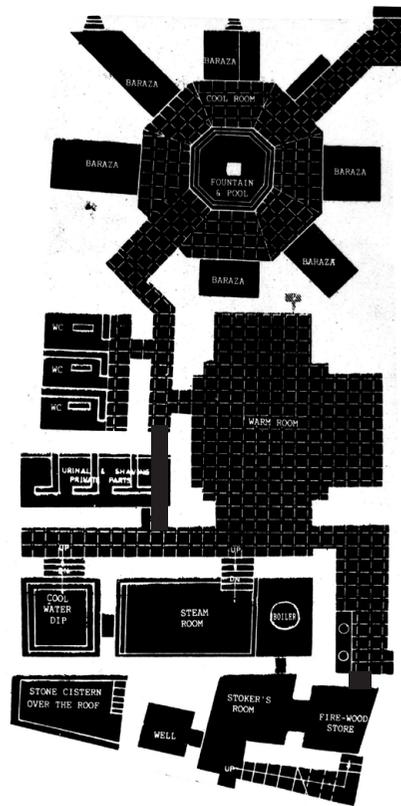
The roof is used for various purposes and is shared between the baths and a community organisation. Soft drinks are served by a youth club with a small cafe, some sit there in the shadow of textile roofs just to relax and occasionally the arts centre just across the street arrange markets. Solar panels are set up to heat water, replacing the tedious furnace that once powered the baths.

Comparison with original plan

Very small adjustments would be needed in order to open up a great variety of possibilities. The original plan of the interior is presented here, with the one from the example above, as comparison on the next page.



Original plan

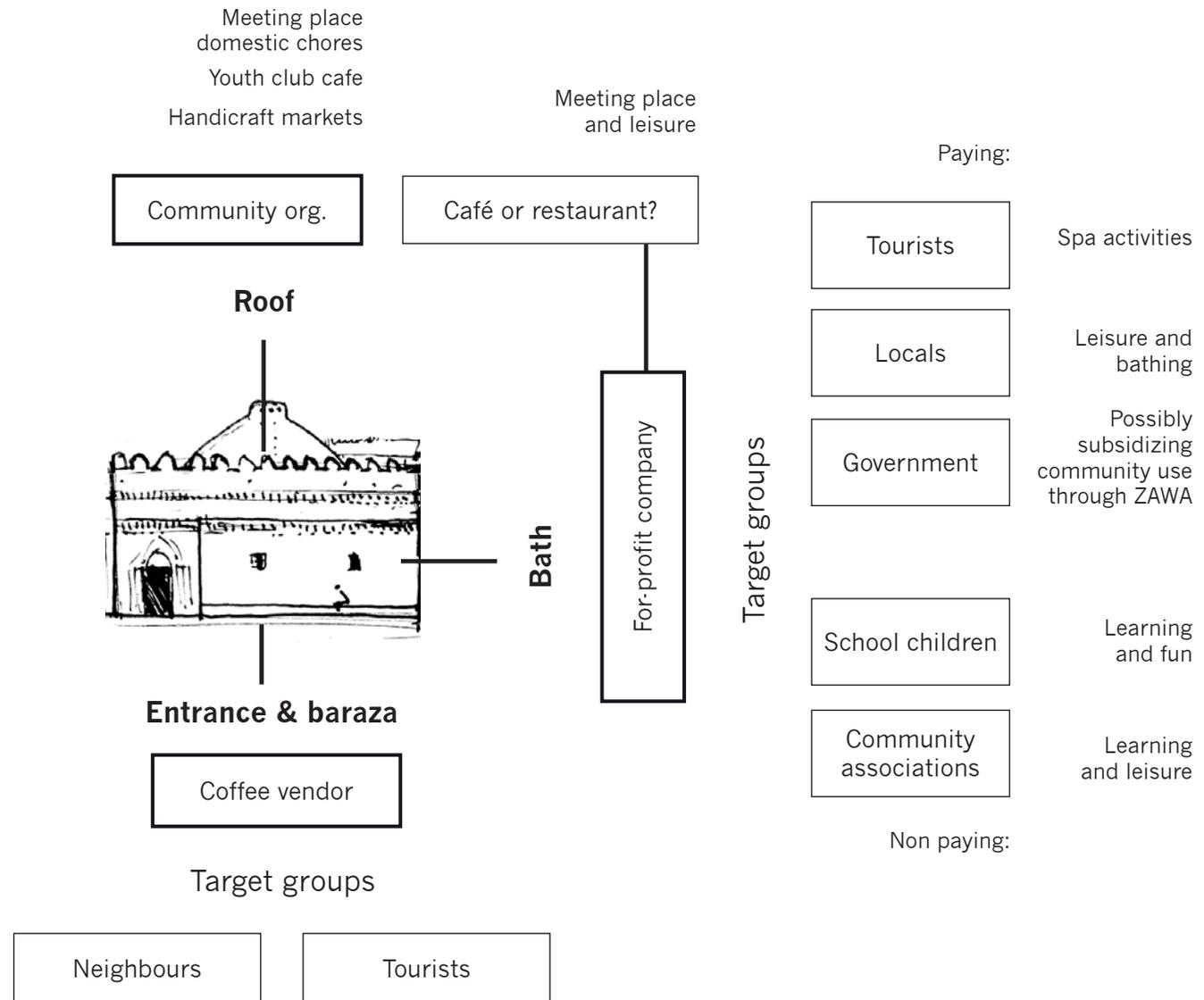


Modified plan from
example above

Possible actors

An inclusive model for the use and maintenance of the baths and the roof top terrace would allow a greater number of intersections between tourism and local identity. The drawback would be that high profit visitors to the spa might be discouraged by the mix of users and the lack of a proper roof top restaurant.

The same group of tourists on the other hand might also request a guest house connected to the baths, which is not feasible without access to the adjacent, privately owned site. Including school children and community organisations as users in a learning scheme, would likewise pose a stress on the concept of a spa and bath but are just as well keys to secure external funding for the restoration.



References

Written sources

- Syversen Inger Lise, *Intention and Reality in Architectural Heritage Management - Case: Zanzibar*, Chalmers 2007
- Cunningham Bissell, W. *Urban Design, Chaos and Colonial Power in Zanzibar*, Indiana University Press 2012
- Ruete Emily, *Memoirs of an Arabian Princess from Zanzibar*, Dover Publications 2009 (original ed 1888)
- A. M. Juma, *A guide to Hamamni Baths*. Zanzibar Department of Archives, Antiquities and Museums 1993
- LaNier Royce and D. Aidan McQuillan, *The Stone Town of Zanzibar, A Strategy for Integrated Development*, UNCHS 1983
- Folkers Antoni et al., *Mtoni*, ArchiAfrika 2010
- Saad Yahya & Associates, *Zanzibar Heritage Management Plan*, 2008
- The Zanzibar Strategy for Growth and Reduction of Poverty ZSGRP: 2010-2015*, RGoZ 2010
- Zanzibar Vision 2020*, RGoZ

Interviews

- Mr. Emerson, owner of the Emerson Spice Hotel (13-03-23)
- Juma Khamis Khalfan, Chumbe Island Coordination and Education Ranger (13-03-25)
- Mugheiry Mohammed J., Chairperson of the Zanzibar Stone Town Heritage society (13-03-19)
- Schötz Stefanie, owner of the Mrembo Spa, Zanzibar Different and cofounder of the Mtoni Palace Conservation Project (13-03-25)
- Abdallah Khamis Ali, Head of Antiquities at the Department of Museums and Antiquities (13-03-28)
- Mbasouk Hamad, founder of Zanzibar Cultural Arts Centre (13-04-05)

Other non-written sources

Mwalim A. Mwalim, architect and former Director of the STCDA (input to project 13-04-03)

Asha Ali Hassan, Heritage officer at the Stone Town Conservation and Development Authority, STCDA (input to project 13-04-09)

Online sources

Aga Khan Visual Archives, <http://dome.mit.edu> (13-05-16)

Mrembo Spa home page, <http://www.mtoni.com/mrembo/> (13-06-02)

Image credits (in order of appearance)

Hand drawn plan of the baths used in several silhouettes, Zanzibar Department of Archives, Antiquities and Museums 1993

Hand drawn Silhouette of Tanzania coast, Zanzibar and Stone Town, UNCHS 1983

Zoom in maps of Stone Town and the neighbourhood, Department of Urban and Rural Planning 2013

Black and white photo of bath exterior, UNCHS 1983

Black and white photo of entrance to the baths, Zanzibar Department of Archives, Antiquities and Museums 1993

Collage of facade. Original photos: Magnus Persson, 2013

Interior of Ibrahim Khan bath, Aga Khan Visual Archive 2010

Interior of Safa bath, Aga Khan Visual Archive

Bathing men, Aga Khan Visual Archive

Hand drawn map over palace baths, Zanzibar Department of Archives, Antiquities and Museums 1993

Interior of dome at Kidichi baths, Zanzibar Different

Old plan of an extension, Zanzibar Department of Archives, Antiquities and Museums 1993

All other images, drawings and technical drawings, Simon Farsi 2013

The Hamamni Baths, from artefact to development multi tool

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Simon Farsi, 2013

This is the preliminary report in the Reality Studio; Sustainable development in a Southern context, ARK161/181, in the master programme Design for Sustainable Development (MPDSD).

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Chalmers Architecture (www.chalmers.se/arch)

Chalmers University of Technology, Department of Architecture, Gothenburg Sweden 2013

APPENDIX 2

Building description

As part of the master thesis Reconnection: Context, Artefact and History in Designing the Restoration of a Zanzibari Hammam

Simon Farsi

Department of Architecture
Master programme Design for Sustainable Development
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2014

Appendix 2: Building Description

As part of the masters thesis Reconnection: context, artefact and history
in designing the restoration of a Zanzibari hammam

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Chalmers Architecture (www.chalmers.se/arch)
Chalmers University of Technology, Department of Architecture, Gothenburg Sweden 2014
Master programme Design for Sustainable Development

Examiner Lisa Brunnström
Tutor Inger Lise Syversen

APPENDIX II

BUILDING DESCRIPTION

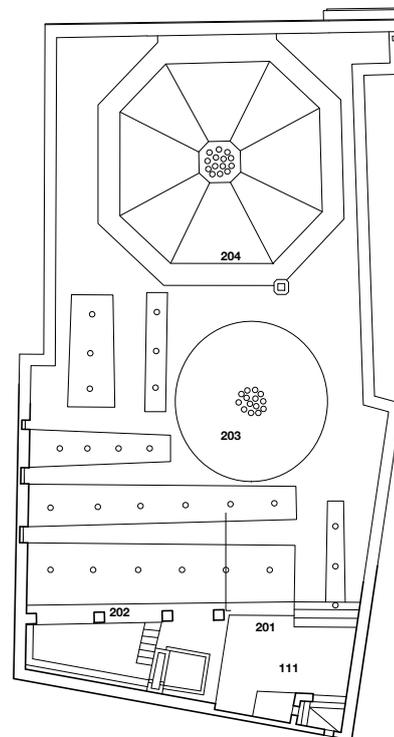
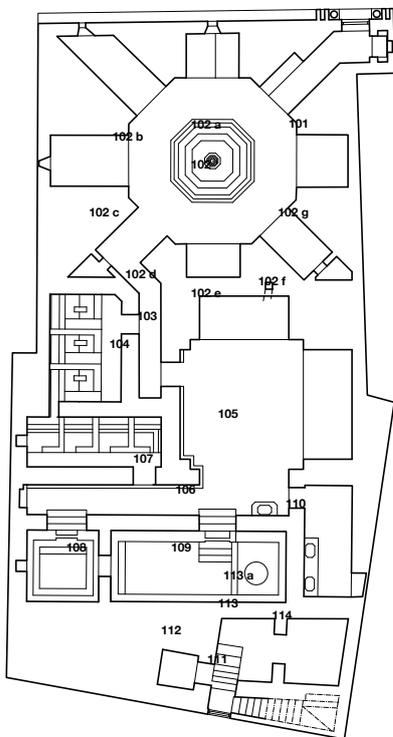
The room-per-room description includes four aspects of analysis for each room. All aspects are presented in a summary, although damages are only partly covered at this stage. For the sake of convenience the summary have been placed before the room-wise descriptions.

1. Surfaces & materials, which includes an analysis of potentially original and subsequent layers of materials. Surfaces are separated into floors, walls/ceilings and other (being those of particular features such as a fountain or basin).
2. Features and systems, ranging from remains of door frames to water pipes and retrofitted electricity.

3. Original use, which combines observations of features with a comparison with other hammam to form an understanding of the use of the room and its specific features.
4. Damages, to surfaces and features. This should be useful for a preliminary assessment of a restoration scheme (not part of the thesis).

Rooms have been named according to their original use as interpreted here and mirrored in the original guide to the baths written by Dr. Abraham Juma who was supervising the latest restoration works. The description of the roof is divided according to architectural and functional features with the exception of the service area above the stair where the roof is entered and the well and cistern, which are separately mentioned.

The interiors met by bathers have been studied in detail while less effort has been put into examining the service areas and roof. Neither have the two facades been dealt with in detail. The reason is priorities.



Space numbering (for full drawings see appendix I).

Left: Interior 1:400

Right: Roof 1:400

Summary of conclusions

Materials and surfaces

All floors within the bathing area except in the urinals, 107, are tiled in various patterns of black and white marble. Tiles measure an average of 321 x 321 mm and a thickness of 17 mm. Deviations in side are less than 3 mm. These tiles are by most accounts imported from Turkey and were used in many official buildings contemporary with the bath house. Stone with the same appearance was used in the royal baths of Stone Town, built earlier but sizes of tiles are larger there.

The walls of the interior appear with a wealth of paints on top of the original plaster. All walls except those of the service areas share the same combination of two tones of original plaster. An earth coloured lower surface and a cream white one above that. The transition occurs 150 to 210 cm above the floor depending on the room but maintains an unbroken line. The plaster has not been analysed but is either an unusually dense and possibly naturally hydraulic lime plaster or a type of portland cement. A third possibility is a type of plaster that has seen its use in some similar applications but with little documentation, that is prepared using a mixture of lime plaster and marble or limestone powder. All hues of the plaster contain black particles 0,1-1 mm and particles of lime 0,5-1,5 mm. The subsequent layers vary but generally include four paints. The first is blue and can be traced to the lower parts of many walls and corresponds to a lighter hue of blue that is evident in some ceilings. On top of this comes layers of white and cream while the topmost layer is blue or white, corresponding to the shift in colour of the original plaster. Much points to that the first blue paints were applied while the baths were still in use. Interestingly enough, the interior of the Chumbe light house (1904) display the same set of underlying plaster and layers of paint.

The exterior walls and the roof were plastered using a white version of the plaster used for the inside although the current appearance varies depending on exposure and repairs. One original surface shows traces of at least four subsequent layers of paint.

Blue, white, cream and white. It is worth mentioning that many buildings in Stone Town show traces of similar blue paint. Furthermore, the fortress and the baths at the Forodani residence are other prominent buildings to which the same white plaster has been applied. These are both older than the Hamamni baths however.

The surfaces of many features inside the bath house, such as the fountain, the Latrine partitions feature a smooth black layer on top of the original plaster and before subsequent cement washes. It is quite thrilling to envision what a striking design the baths must have come across as with such distinct contrasts. It is difficult however to determine whether the black colour was an original feature or contemporary with the addition of blue to walls and ceilings.

The basic construction has not been covered but exposed patches show that like other historical buildings in Old Stone Town the baths were constructed using coral stone and lime mortar. Most of Old Stone Town is built on firm sand and the building most likely has foundations in correspondence ¹.

Technical systems

The baths were built before the installation of tap water in the area and had at least one well, now dry. Water was drawn from the well to a cistern on the roof and when there was rain, from the roof as well. When tap water was introduced, new pipes were installed, carrying water to and within the building. A sewer passes under the bath house and at least three drains connect to it. It has been stated in the 1993 guide book to the baths that the toilets of the were pit latrines but the fact that their design directs water for washing into the holes suggests that they were in fact connected to the sewer as well.

Heating was done using a furnace under the combined boiler and hot pool. Hot exhaust from the furnace were led under the warm room heating the floor before being let out through a chimney between

1 Conservation and Design Guidelines for Zanzibar Stone Town, The Aga Khan Trust for Culture 1994.

the warm and the cool room. Hot water was drawn directly from the boiler through short pipes to three basins situated around it and also getting water separately from the cistern.

Ventilation was more or less kept from the warm room, with glass panes blocking the only window connected to it, above the cold pool. It is possible however that the cool room featured screened windows which would have provided it with a degree of circulation increasing the cooling effect of the central fountain.

Lighting

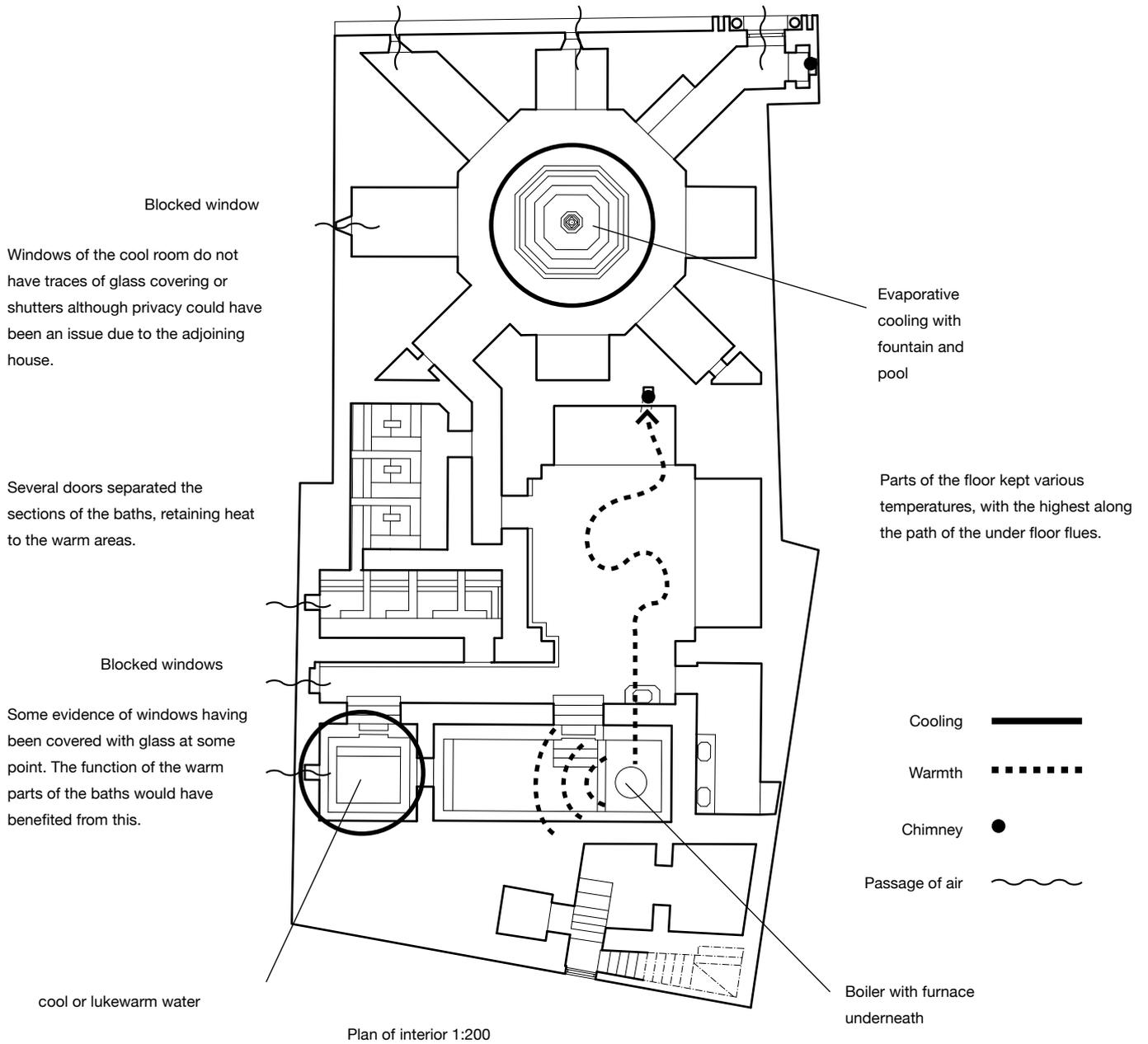
Lighting differs somewhat between hammam cultures in terms of artificial sources of light. Generally electric light have been installed but you will still find hammam that go almost dark when the sun sets, giving new attributes to space. There are also examples that once made use of oil lamps. Since no records remain of the use of the Zanzibari it's not possible to tell how they were lit other than there are remains of a fitting to hang what would presumably have been a lamp from inside one of the domes of the Mtoni palace hammam. The Stone Town public hammam show no such traces although it cannot be ruled out that artificial lighting was used. An understanding of the hours of use of the baths would doubtless be significant in determining this since there is no natural light available at all from around 7 in the evening.

Original use

Some original features of the baths have already been mentioned of course in the 1993 guide and some across as obvious as well but in seeking a more complete and traceable interpretation I have gone through the many perks of the building and defined a set of functions ranging from the taps supplying water in the room of the toilets to the evidence of a bazaar-like sunscreen providing a leisurely shade along to the street along the entire block. The result is the following plan and section displaying the various original activities.

One of the most important uncovered features are the six interior doors having been removed. They were low, between 180 and 190 cm high, with wooden panels above and often swung into the deep passages rather than out into the rooms. A feature that sets the bath house apart from its Persian origin is the immersion pool of the cold room which is deep enough to climb into. Its counterparts in Persia were less deep and used in most cases for cupping water from to wash ones feet. There are also peculiarities yet to be explained, such as the narrow steps in the hot immersion pool up towards the opening between the two pools. It is unlikely that the opening was used to move between the pools yet the steps are not deep enough to use as benches and defies other explanations. The use is further described in drawings as well as in the text describing each room.

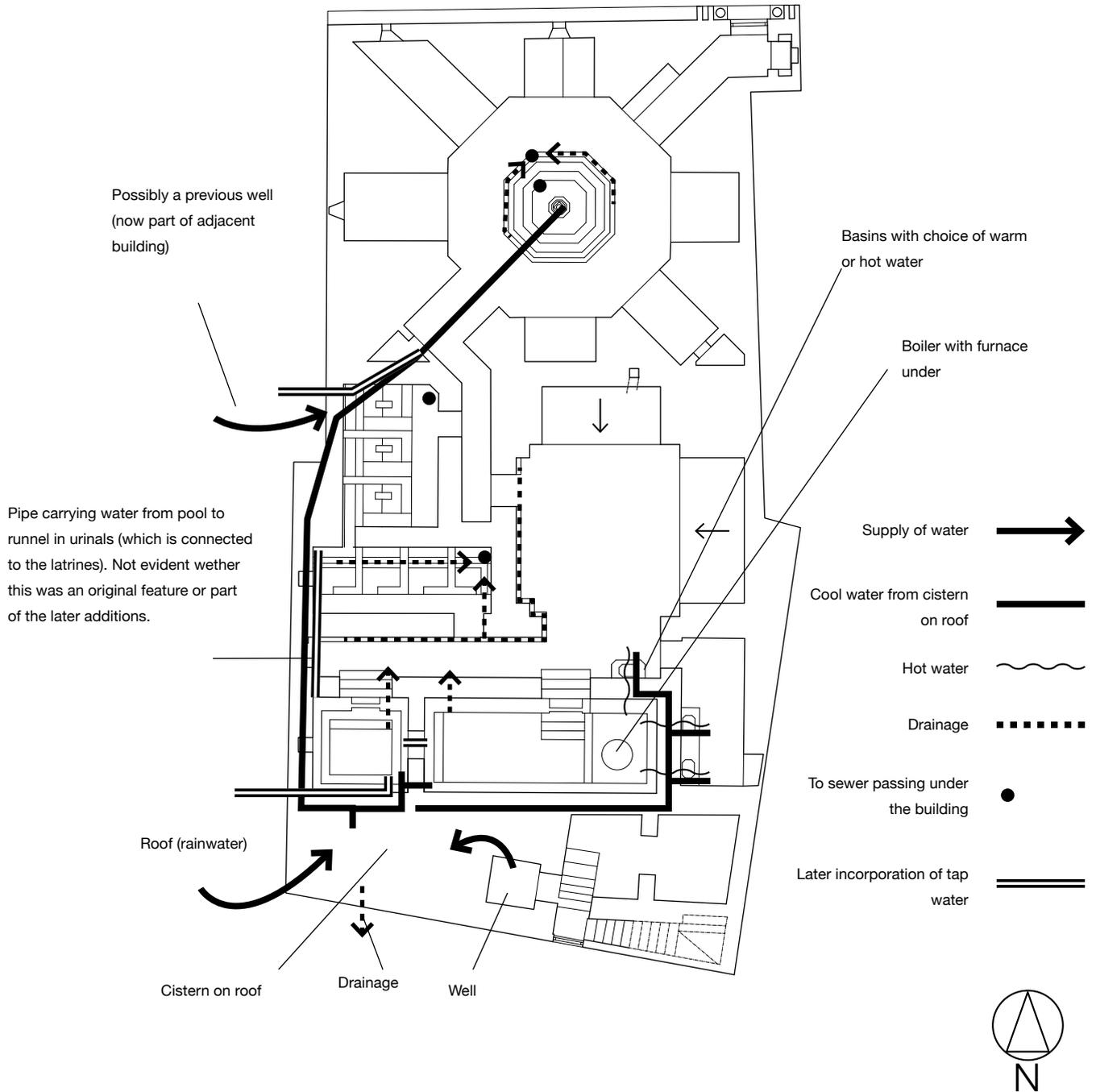
Original heating and ventilation



10 m Scale 1:200

Plan from Farsi, Hamamni Baths - From Artefact to Development Multitool

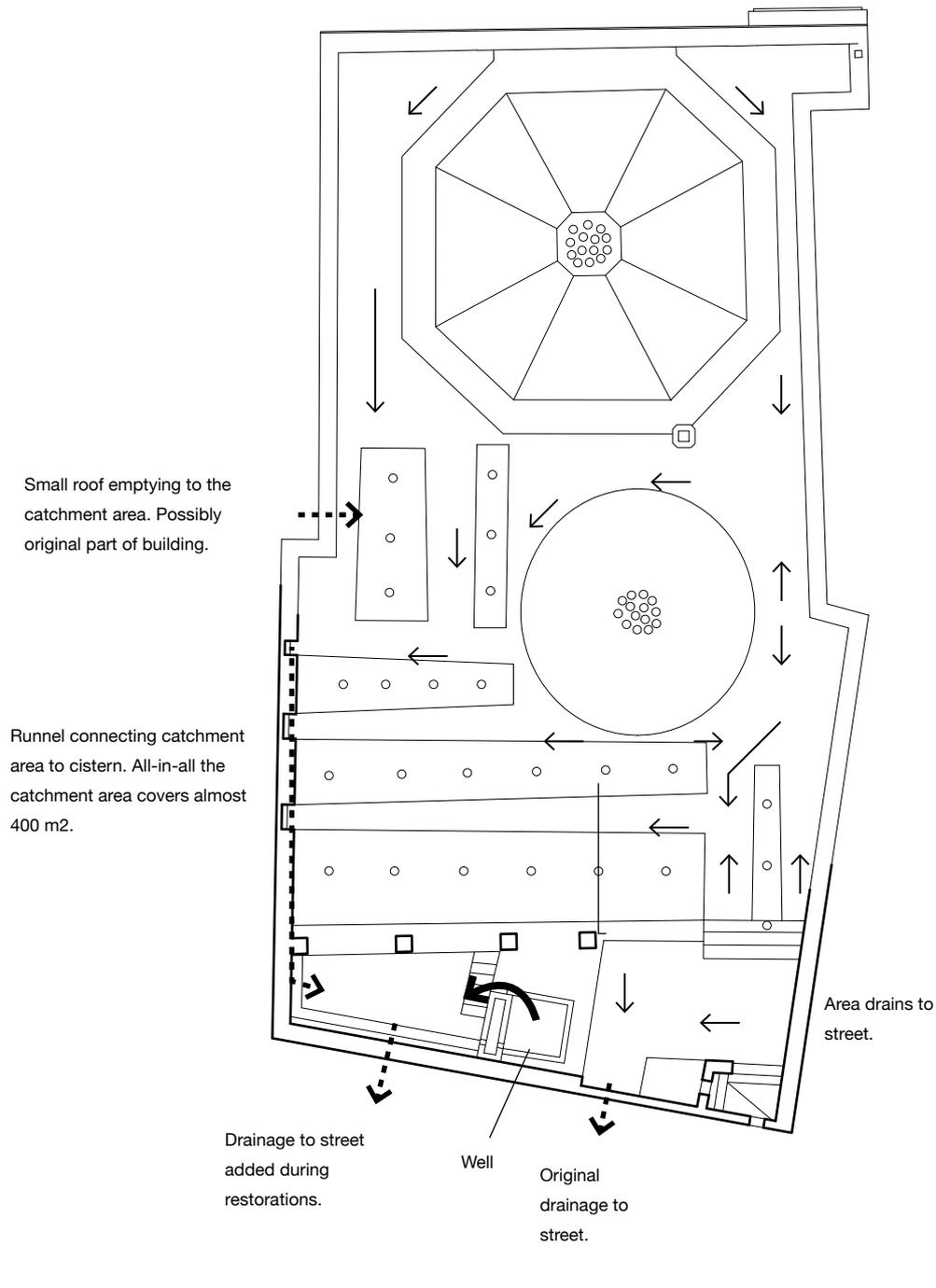
Original handling of water, interior



10 m Scale 1:200

Plan from Farsi, Hamamni Baths - From Artefact to Development Multitool

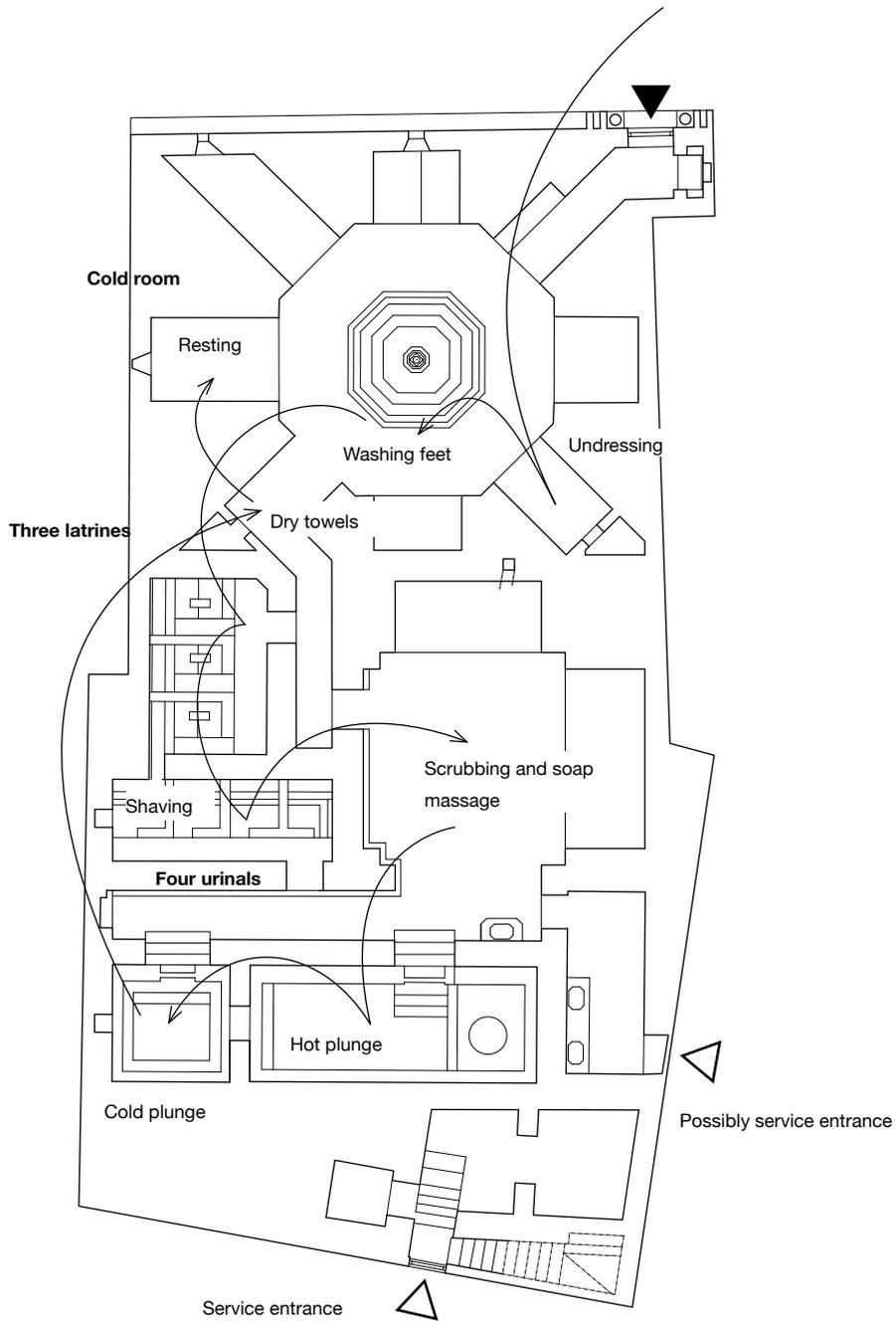
Original handling of water, roof



10 m Scale 1:200

Plan from Farsi, Hamamni Baths - From Artefact to Development Multitool

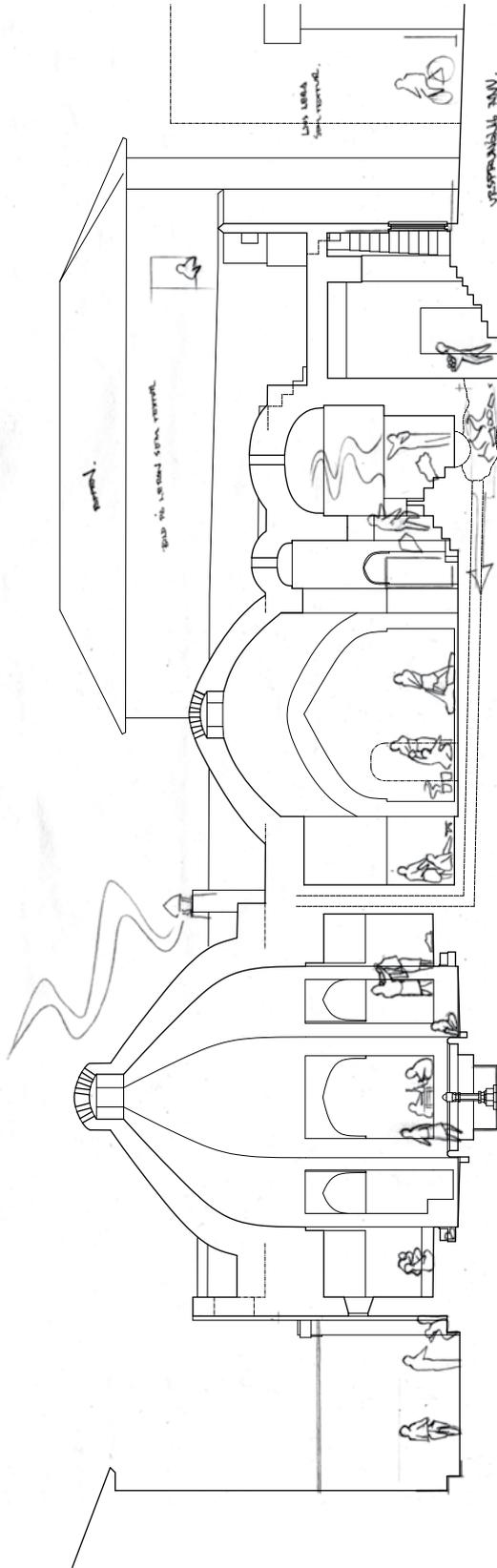
Original use of space, floor plan



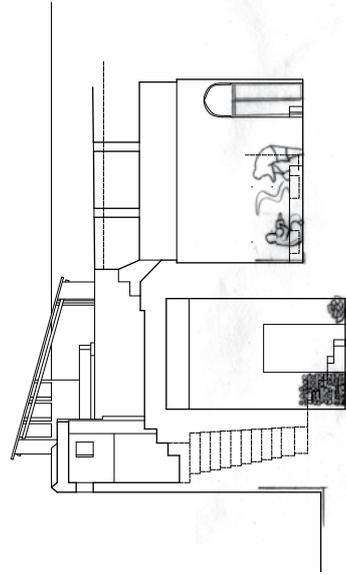
10 m Scale 1:200

Plan from Farsi, Hamamni Baths - From Artefact to Development Multitool

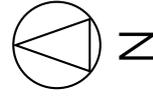
Illustration of original use, sections



Section A-A through the entire building including Hamamni Street to the left and the back street.



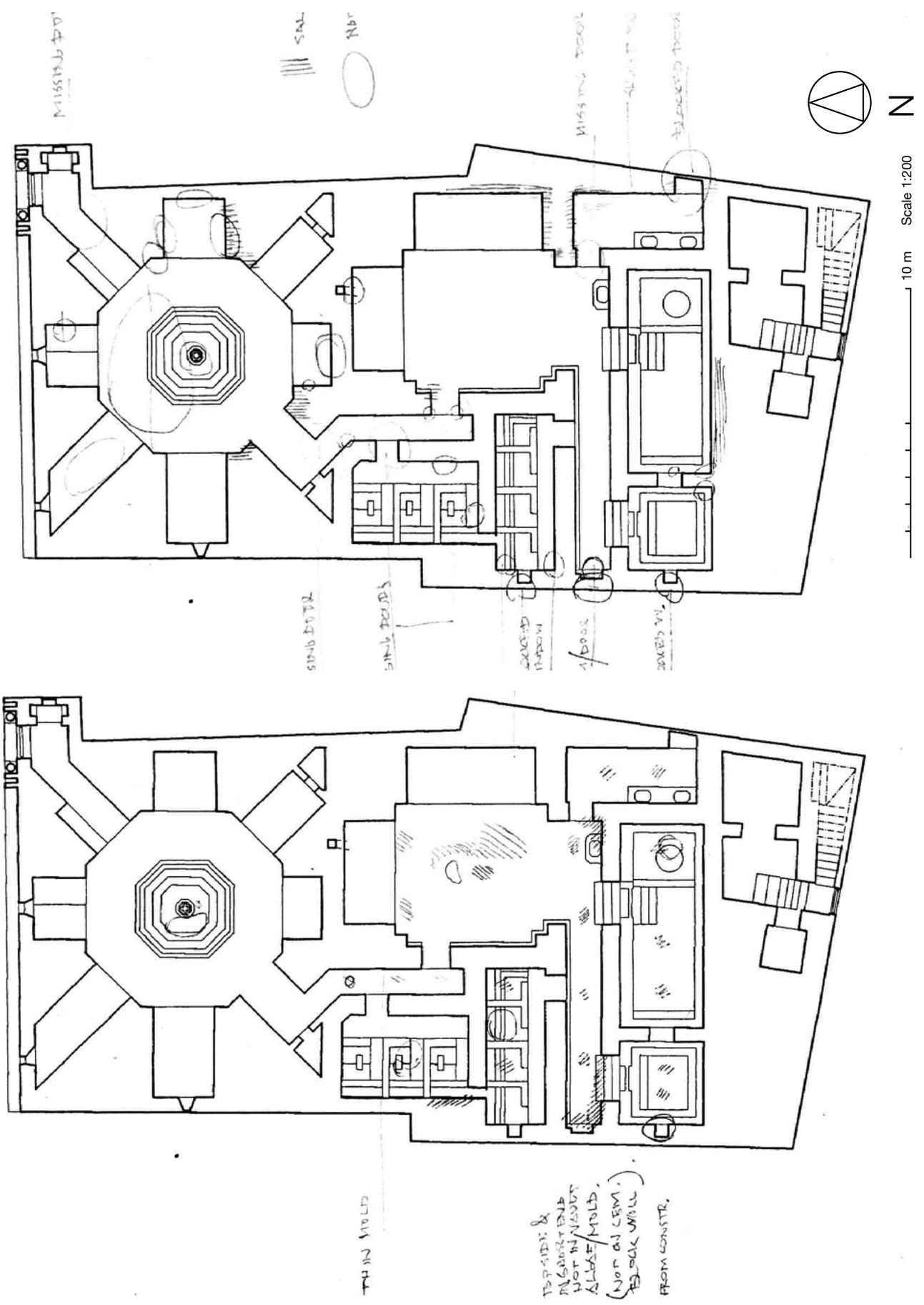
Section B-B through service spaces and what appears to have been an extra room for scrubbing and soaping.



10 m Scale 1:200

Sections from Farsi, Hamamni Baths - From Artefact to Development Multitool

Interior damages at a glance



Room-wise description

101 Entrance

Surfaces & materials

Floor

The floor feature marble tiling in black and white, with a white line laid along the length of the space, from outer door to cool room. The threshold is tiled white together with two rows of white tiles outside of it, at 10 cm lower a height than the current street. Generally no gap between tiles.

Walls and ceilings

Walls and ceiling are plastered and painted, with plaster appearing to have been the original surface. Both sand/brown coloured (lower) and light beige coloured (above) plaster have been used, with the shift occurring at 150-160 cm above the floor (a result of the tapering floor and some irregularities in the line between the two plasters). Both plasters are dense and at a thickness of 2 mm and have been applied on top of a layer of red mortar 0-1 mm and coral ballast 2-4 mm. The plaster itself has a smooth and dense surface but does not appear to have been polished.

Subsequent layers on all plastered surfaces include cloud blue, light grey, beige (close to the beige plaster in colour) and white. All subsequent layers from the cloud blue and out appears to have featured only one colour rather than the combination of dark and light of the underlying plaster. The ceiling shows traces of only three subsequent layers of paint, with the light grey layer missing. While this needs verification that could not be done without a ladder, it would suggest that the room would have been two-coloured in later states than its original. The cloud blue paint appears to have better adherence to the underlying plaster (to the lower, darker plaster in particular) than the subsequent layers of paint to their underlying surfaces.

In the niche next to the door, the same underlying plasters and paints can be found. However the uppermost parts of the niche, not visible other than at closer inspection, lacks all paint and feature only the lighter plaster. The inner surface facing away from the room (not visible other than from inside the niche itself) lacks all other layers than the red mortar with ballast and coral stones 100-200 mm.

Remains of cloud-blue paint on the damaged plaster works around the niche hints to the story behind the various layers. That all layers of paint exist on these exposed and more delicate features that would appear to be more subject to damage and later restoration than the plain walls around, points either to that the features are original and not a reconstruction from a restoration; or if they are indeed a reconstruction to that all subsequent layers of paint are additions later than the restoration. Another clue is found on the wall facing the entrance door in the way of notes, quite possibly done with graphite. They are made directly on the plaster, underneath the subsequent layers of paint and was identified as Arabic though no complete words are exposed. The conclusions from these two hints is that the plaster is indeed an original layer (with little reason to suspect a replastering during the fifty years of use or in the time until the restorations in the eighties). The amount of original plaster left however puts some doubt to the claim that the baths were long used as quarters by squatters [the guide book].

An other oddity found only in the entrance, is an infill made with blue pigmented (gypsum) plaster into a crevice in the original layer of light plaster. The infill is located not far from the pencil markings. No other repairs show this attention to quality and the filling would suggest that the cloud-blue paint was an addition much earlier than the subsequent layers of grey, cream and white. It is highly suggestive, that the same blue colour can be found on so many other buildings in the context, including the outside of the baths (also directly on top the plaster), on the outside of the fortress, the inside (and possibly outside) of the Chumbe island lighthouse and many other residential and official buildings. It raises the question whether it would be possible to pinpoint a source of influence

that would give a rough date to the addition of blue hues. At least the Chumbe island lighthouse was built during the time of the British protectorate. (Chumbe island ranger).

Features and use

The entrance room as it is formed today has three distinct features beside the entrance door. The niche to the left of the door, the short interior baraza at the other end of the space and remains of a door frame precisely between.

The outer door

The outer door. The entrance door is rectangular and small compared even to the most residential houses in Stone Town. The frame and blade are new and photographs from after the restorations show a double door with three insets to each blade. Photographs from just before the restorations show a double door with two insets to each blade and what appears to be a frame as plain as the current one. Both earlier doors align with a type of door seen on many Persian hammam in Iran. The hardwood beam over the door appears to be original, indicating that the dimensions are those of the original door as well. Neither the new door nor the surfaces around it feature any decorations. It would seem natural to have kept this door open to indicate the opening hours of the baths and this would accommodate for a more active use of the coffee/tea niche providing that another door would shield the rest of the baths from views (see discussion on this further down). My own observations in Stone Town are that many doors are opened to indicate activity.

The coffee niche

The niche is located to the left when the building is entered. Its bottom is 60 cm above the floor and it is about 40 cm deep. It is covered by a low arch at its front end but extends upwards from its back to a chimney about 20 cm square. The 1993 guide mention it as a place from where coffee was served and the observations here confirms this although it cannot be ruled out that tea would have been served

as well, owing to the Persian origin of the customs. Sooth is evident on the plaster of the innermost surfaces in and just below the smaller inner niche. Neither cream nor white layers of paint show traces of sooth and although it isn't clear whether the blue paint have any traces, it is safe to assume that the plaster have been used as a topmost layer in the niche while the baths were still in use. It would seem possible or even probable that such surfaces exposed to smoke would be left unpainted even in the event that the rest of the baths were painted but since the surfaces of the niche show the same layers of paint as the walls in general, this must be ruled out. Likewise, the choice to continue the divide of lower and upper surfaces in darker and lighter colours of plaster inside the niche would be unlikely if its construction was based on such pragmatism. Pieces of black marble remains around the edge of the bottom of the niche, with the remainder of the surface being cement. Tiles are cracked and it's not clear how much of the bottom of the niche was covered and whether there was a deeper recess in the middle, to hold a pile of coal. The existence of a chimney suggest such but portable heaters were employed by coffee vendors at the time and could have been used here the bath house as well. The common type of heater and pot was much too large however to have fitted in the niche, which once again points to a permanent source of heat.

The partitioning door

The remains of a door frame are visible as a shift in the wall slightly more than 2 meters from the threshold to the Cool room. The shift is due to a filling with cement 11 cm wide which leads to the conclusion that a frame, most likely of wood, was removed. Short extrusions appear where the vault begins. It's not possible to discern whether these features are plaster or cement but their appearance is unlikely to have been the whim or fault of a craftsman at the time of the removal of the frame. Therefore they would suggest that the door frame ended there. The same feature occurs where other doors appears to have been removed. The filling and shift in the surface continue in the ceiling however and points to that a screen or board blocked the space above the door. There is no evidence of a threshold. The existence of

a door is logical from an architectural point of view since it would block accidental views into the bath house and retain the cool air inside when the outer door was kept open. The result however would have been an entrance in two stages. The outer part would have been occupied by a coffee vendor, perhaps part of the staff, while the inner entrance would need its own attendant to care for the valuables of visitors and collect fees. Due to the existence of similar doors to separate various sections in hammam elsewhere, it must be assumed that the door was indeed an original feature and not a later modification. Likewise, a later addition of a door frame would have been easier to make on top of the wall rather than incised. Given the arrangement of space in the entrance, it is likely that the door opened outwards, hinged on the right hand side. The conclusion is also that the inner part of the entrance should in fact be considered part of the cool room like the outer part of the corridor opposite to it.

The attendants baraza

The baraza, with an arched space underneath is tiled in black and is 60 cm high. Today it is used to display various items for sale but also serves as a seat for the attendant when her friends visit for a chat and as a place to nap. The 1993 guide mention it as where fees would be collected and valuables stored with the bath house attendant. Its uncomfortable height however makes it suggestive of its original use, though the lack of other places where an attendant could be stationed points to the assumption that it is indeed a baraza, not a shelf. On the other hand the lack of dry service and storage spaces would suggest that it was indeed a shelf and used to serve drinks and snack from in addition to the coffee or tea from the niche in the outer part of the room. The placement just before the floor around the central fountain of the Cool room raises the question wether the space underneath could have been used to keep dirty shoes of visitors but its relatively small size suggest that it was used either to store shoes of the attendant (and staff) or the valuables of visitors close to the attendant. A strictly decorative reason would likely have resulted in a more shallow niche.

Damages

Damages to tiles

General damage to all parts of floor. Severe damage to white tiles inside of doorstep but few missing pieces. Missing tiles of white at the angle of the room, with the void filled with cement. Big chips from two black tiles, floor and baraza, with the cuts worn smooth.

Damages to plaster works and paint

White paint remains to around two thirds of plastered surfaces, with most of it worn off in the outer part of the entrance and below 80 cm in the rest of the room. Damage to exposed corners of plaster work around the niche. Minor fillings with cement occur in various places on walls. A few minor fillings with pigmented light-blue and white (gypsum?) plasters.

102 Cool room (incl a-g)

Surfaces and materials

Surfaces of floors

Tiling in black and white marble with the black laid in triangles pointing from each of the eight corners to the edge of the fountain, as well as borders along the walls and edges of the barazas. The symmetry of cuts to the black tiles of the triangles is poor and gives a patched look.

Surfaces of walls and ceilings

The walls feature thicker layers of plaster than those in the entrance, at about 4 mm compared to 2. The plaster appears to have the same or slightly higher density than that of the entrance and newly exposed breaks reveal a grey surface reminiscent of that of cintered ceramics. The shift between lower earth coloured and upper white plaster occurs at 170-175 cm from the floor. There are traces of a small tool used in the application of plaster, such as a curved wooden rake around 8 cm wide. Marks reminiscent of fingerprints or the ridged patterns acquired when two papers with paint between are pulled apart

suggest that the plaster had a viscous quality when it was applied and points to a high content of very fine particles. These marks appear most clearly in the darker plaster of the lower parts of walls. One surface just above the floor show an exposed patch of underlying mortar and stonework. Here, where the plaster has been forced from its base, it shows a plasticity giving the appearance that it was bent away while still soft. (WHAT DOES THIS SIGNIFY?). The underlying cream/red mortar is dense and contains several particles 1-4 mm of unburned gypsum and occasional pieces of seashell and charcoal.

There are four subsequent layers of paint evident on all walls. The layers are cloud-blue, white, cream (close to the light coloured plaster) and white. Some uncertainty remains as to the dome and vaults of barazas that could not be investigated closely. Traces of a lighter cloud-blue are hinted at in several exposed patches of the ceilings, suggesting that the blue colour differed between upper and lower surfaces, just as the underlying plaster.

Features

The cool room has many specific features including the fountain, 6 deep niches (barazas), a row of small niches along the floor, windows from some of the barazas and additional spaces hiding plumbing and storage.

The fountain

The octagonal fountain is the central feature of the space. Perhaps of the entire bath house. Its rim is 40 cm high and has two inner steps of 25 cm depth and heights of 40 and 60 cm respectively making the total depth of the fountain 140 cm from the outer rim. The whole fountain is surrounded by a runnel with a drain but also has an internal drain at its bottom. An octagonal pillar in the centre of the fountain carries water to a sprout and features the same Persian style capital as the two pillars flanking the entrance. The sprout itself is a brass pipe with a grooved link inset into it (2 and 1 cm inside diameter respectively).

The link suggests that there was originally a nozzle attached to the pipe, possibly spread water in a more directed way than a plain pipe.

The fountain and pillar feature the same plaster and underlying mortar as the lower parts of the walls, although at less thickness at 2 mm. The few exposed ridges of plaster however reveal a crispness otherwise matched only at the inner parts of the niche in the entrance and one exposed part of the partitions in the former pit latrines. Neither does it show the traces of tools evident on many patches of walls and ceilings.

The subsequent layers on top of the plaster of the rim include a black layer at roughly 0.5 mm and two layers of coarsely applied warm grey. There is occasionally a layer of cement of varying thickness under the grey layers. The black layer is firmly adherent to the plaster and appears at least on one exposed surface as infused rather than added, with fine lines of worn through earth colour along ridges. One exposed surface shows traces of a smooth layer of grey similar to the black surface but close to the white marble in colour. Without further investigations it cannot be ruled out that this is evidence of a simulation of the black and white pattern of marble although the location of the two exposed black surfaces points to that the entire rim was blackened.

None of the steps have exposed tops but repeated linear cracks at right angles to the length of the steps and occasionally extending downwards suggests a tiled surface or a block construction. The irregular intervals between the cracks, 28-54 cm however points to the latter explanation, not least since no other parts of the bath house feature other tiles than the standard 32 cm side square. There is also one exposed chip along a ridge showing no underlying tiling. The inside of the rim around the fountain shows the same layers of paint as its outside but surfaces lower than the first step feature a crude variation on the earth-coloured plaster with two subsequent layers of warm grey.

Windows

Three of the barazas feature small windows set high in the walls, two towards the street and one towards the narrow courtyard of the adjacent house on the west side of the baths. Both windows towards the street are set with a “stretch metal net” and shows no traces of glass panes. The window towards the courtyard is blocked using cement. The layout of the courtyard makes it accessible from the outside separate from the quarters and thus more public but the window might have featured a screen or pane to shield from view and/or sounds.

Barazas

The cool room have six barazas of varying sizes and shapes. They all have a height of 65-60 cm above the floor, vaults with an Arabic arch form and are set with black marble tiles and a border of white along walls and edge. Three of them feature windows and one has an additional space behind an opening in the back wall mirrored by an identical space at the back of the extension of the room towards the corridor leading further into the bath house. The baraza to the right of the entrance, facing the street, have a ledge along its right wall with a height of 30 cm. There is also a hint of a level area at the middle of the otherwise slanting lower part of the floor. All barazas have floors slanting towards the centre of the room.

Rows of small niches

Underneath each baraza are a row of four to five small niches, featuring crude Arabic arches and laid with alternatively black and white marble on the bottom. The bottom is raised some 7 cm from the floor and the niches themselves have average dimensions of 25x30x40 cm.

Blind windows, spaces

At the back of the space leading to the corridor towards the rest of the baths there is a blind window identical to the one in the south eastern baraza. This one houses pipes. One iron pipe 35 mm with brass vault (unmarked) from pit latrines to bottom of niche and one brass/copper pipe 45 mm and 2 mm thick

walls from pit latrines. The inside of the space is plastered the same way as other walls and ceilings but show no traces of cloud-blue paint. Only two layers of white have been applied. The opening however is bridged with a wooden beam similar to the one over the entrance door, pointing to that the opening and the space behind was an original feature. The both spaces have identical surfaces.

Original use

Use of the fountain

The fountain mirrors similar features in Persian baths in nowadays Iran but for its depth. Surrounding the fountain is a drain and one of its functions was surely to provide water for visitors to wash their feet or parts of their bodies before entering further into the bath house. Fountains are featured in most types of hammam but serve different purposes depending on customs. From cooling in the Turkish hammam to providing drinking water in Egyptian hammam and water for cleansing in Persian hammam. In no other cases however are they deep enough to descend into.

Use of the small niches

The small niches featured under the barazas appears to have various uses in different hammam traditions. Their location and design in this case points to their use as spaces for visitors to put shoes. In colder climates such as in Iran similar niches might have been used as part of a heating system during the winter when the cool room would in fact be heated although less than the warm room and much dryer. The peculiar addition of undecorated versions in earlier Persian baths on Zanzibar points in that direction and might be the result of either a misunderstanding in construction, a sentimental inclusion by the master builder or simply a need to store fewer pairs of shoes in the royal baths than in the public Stone Town hammam. There are also museum examples of hammam in Iran that employ these niches for placing shoes. The 1993 guide mention them as possibly used for storing footwear and I would confirm that notion.

Use of the barazas

The barazas would have had different uses. The stepped baraza next to the entrance is marked as the baraza of the barber in the 1993 guide and the height of the ledge, 30 cm, creates a comfortable position for a barber to work with a bathers hair or beard.. That part of the lower floor is level also points towards this conclusion since a customer seated there would be more comfortable than sitting on a slanting floor. It cannot be ruled out however that this particular feature is merely a mistake in the tiling. Signs in the bath house today accredit various original uses of the barazas but little evidence has been found to support or dismiss these claims. There are for example symmetrically located cement fillings just inside the west and east barazas, at a height of around 170 above the baraza floors and it is possible that these cover holes that were left after removed hangings. This would go along with the assumption that these were dressing and undressing barazas. The 1993 guide mention instead that all barazas except two were used for undressing and keeping clothes. This is equally possible but would have required either the aforementioned hangings or that bathing attendants held up towels for privacy. The shallow southern baraza is labelled as a place to serve drinks but this must be seen only as a suggestion seeing that as many barazas as possible would have had to be used for seating in what was a room for socializing and relaxing. The lack of dry service areas however raises questions however as to where drinks would have been otherwise stored (see also mentions under the heading of the entrance). The baraza containing a blind window at its back is mentioned in the 1993 guide as a place where bathers took off and left their wet towels to take new ones from the space behind the opening. The guide mention the sloping of this baraza towards the centre of the room and perhaps this lead to the assumption. Once again, conclusive evidence of other uses cannot be put forward other than that all barazas have similar inclinations and that changing towels without a curtain or an attendant to hold up the new towel for privacy would have been unlikely.

Use of the blind windows

It is likely that the two spaces behind blind windows were used as storage, seeing that few other spaces were offered. Possibly for dry towels.

Use of the pipes

Damages

Damages to floors and tiles

Black tiles are cracked and chipped in many places along their diagonal cuts. At least one third of the white tiles suffer from discolouring both on the main floor and those of the barazas.

A settling of the floor of the diagonal baraza facing the street. No evidence however of the settling originating with the walls, which is in line with the general rule that buildings in Stone Town are founded on bedrock.

Damages to walls and plaster works

An added layers of paint covers most of the fountain and appears occasionally with an underlying layer of crudely applied cement. Two of three exposed surfaces where the added paint has been removed show a slight wearing away of the undermost and probably original layer of black paint.

Paint is falling off walls and ceiling from at least one third of surfaces. Damages to surface of the north side of the dome ceiling with plaster and occasionally mortar falling away. Cement fillings are visible on all parts of the ceiling, hinting to a continuous problem with moisture. Only minor traces of running water however.

Between 103 e and f, a bulge in the wall and a large area of plaster clinging loosely to the underlying base indicates a problem with water entering the construction from the eastern side or hints to a slight settling of the pier between the floor of the barazas and their ceilings. There is no other evidence of a

settling however which makes this scenario unlikely. The fact that the house sharing a wall with the bath house collapsed some years ago, leaving the wall exposed also points to water being the reason for the damages.

Damages to systems

Both drains must be assumed to be blocked until further examined, although one other drain appears to be in use by the attendant of the bath house when floors are cleaned.

103 Outer corridor

Main surfaces

Floors

Tiled with black and white marble, 32 x 32 cm. One row of white tiles along the length of the corridor is bordered by black tiles along edges of walls. The black border does not cap either end of the corridor presenting an abrupt end towards the cool room compared to the transitions between other spaces.

Walls and ceilings

The thickness of plaster layers cannot be determined. Density and colour matches those generally used and the shift between dark lower and light upper layers occurs at around 165 cm. On many surfaces of walls, there are no traces of blue paint under the cream and white layers although there is evidence that the room has been painted using all four layers. The white pigmented cement fillings after the removed door frames lacks the blue layer, which was consequently an earlier alteration than the removal of the doors. Considering that the doors would have been integral to the functioning of the bath house, it would appear that the blue paint was added while the baths were still in use. It must be considered possible that the blue paint was added after the end of use and the doors subsequently removed to accommodate for a particular use. This seems unlikely as it would have required a time of use for the building as a museum before its final abandonment and much

later restoration (considering the indoor climate, not fit for any active uses requiring a beautification). It is also unlikely that the doors were removed in the restorations in the eighties.

Features

There is evidence of at least one door having been removed from where the corridor ends in the Cool room and more traces suggesting that doors covered the entrance to the Pit latrines and the Warm room as well. There is also electricity installed.

Removed doors

The traces of a removed door frame at the Cool room end of the corridor include a shift in the wall caused by a cement filling 10 cm wide extending from the floor up to 210 cm. No traces remain of a threshold. Where the cement filling ends, a well preserved plain plaster screen starts in the form of an Arabic arc. The screen which appears unusual in its 35-50 mm thickness conceals a slot 20 mm wide and 30-40 mm deep in the barrel vault behind it might have served to present a more decorative arch outwards than the barrel vault offers. However the semicircular arc of the vault is visible from outside of the screen as well. The screen appears with the same four layers of paint as the walls, indicating that it is an original feature.

There are similar evidence of removed doors towards the Pit latrines and the Warm room. Fillings are made using the same white pigmented cement and there are some evidence that arced screens were applied to them as with the door towards the Cool room. Namely, the filling continues into the vaults but only covers the edge of the opening, about 4-5 cm instead of 10. The alterations are difficult to read however with some indications of an arc ending as low as 155 cm towards the Warm room, much too low to end a door frame, and very crude fillings at both openings although there are some hints that the fillings are around 10 cm deep. Both these openings show traces of removed thresholds, in the form of steps down from the floor of the corridor.

Electricity

Electricity has been added and extends from the Cool room to the Warm room, with a secondary line drawn to the Pit latrines and one socket installed along the line towards the Warm room. There are traces of an earlier removed socket, along the same line.

Original use

Use of doors

The height of the openings are limited, 230 and 245 cm respectively, but would have accommodated doors either if the screens were limited in height or if the doors covered the space behind the screens as well, swinging into the openings. The latter however would have required complicated designs and is unlikely. This points to that these two doors had a height of 190 cm above which screens would cover the openings. Furthermore it is unlikely that an outwards swinging door would have been used towards the Pit latrines given how big an obstacle it would create when opened into the corridor and it would seem logical that both doors employed the same design considering the likeness in thresholds. An inwards swinging design would account for these unusual steps since the doors would close against them. It is also possible however that wooden thresholds covered these steps although they would be an odd addition to an otherwise waterproof design.

The room itself

Using a door at each end of the corridor would seem cumbersome from a user perspective but would help retain warmth and coolness. The door towards the Pit latrines would be explained as a means to retain smells. In essence this setup would have made the corridor a neutral passage between several functions.

Damages

Damages to floor and tiles

Discolouring of white tiles from the middle of the corridor through the bend to the end towards the Cool room. Traces along all walls of cement having covered the floor. Cracks and chippings of tiles at the bend and two missing triangular tiles with the voids filled with cement.

Damages to walls and ceilings

Crude cement fillings on top of original surfaces around removed door frames. Added layers of paint clinging to most original surfaces. There is also a lack of plaster in the light shafts as well as some mold in the same. Water leaks from the light shaft closest to the Cool room.

104 Pit latrines

Surfaces and structures

Floors and tiles

Corridor tiled with black and white marble, 32 x 32 cm in checkered pattern. First step of partitions are tiled in black and the top step in white. The opening in the wall is tiled in black. The floor tappers towards a drain to the right upon entering the room.

Walls and ceilings

The thickness of plaster layers cannot be determined. Neither colours of plaster nor number of added paints can be determined without removing the added paints themselves. A shift in underlying plaster is clearly visible however at 210-215 cm above the above (around 180 cm above the first step of the partitions).

Features

Partitions

Partitioning walls high enough to cover all but the head and shoulders of someone on the other side unless viewed from just by the wall. Each partition is raised in two steps of which the higher one feature a long slit through the floor and a slight additional raising of half the surface about 8 additional cm. The first steps of the partitions slant outwards, while the upper platform slants inwards towards the slits.

The partitions are partly shielded from view by short walls. The gaps between the walls where the partitions are entered feature symmetrically located holes with a diameter of 30 mm at a height of 175-180 cm from the floor (150 cm above the floors in the partitions). Two of these holes have remaining stubs of hardwood 30 mm diameter, further hinting at rods for hangings having been used and removed [].

Only two patches of a partitioning wall and the runnel has exposed underlying layers, which provide evidence of a black layer on top of a plastered surface and subsequent layers are cement and a whitewash. One of the exposed black surfaces gives off a thick sooth that can be washed away using water.

Holes in the floor

The hole in the floor in each of the three partitions runs down through the floor although it couldn't be determined wether it is in fact to one or three pits or if the holes lead to the sewer that ran under the building. The bottom is approximately 180 cm below the mouth of the holes, or 120 cm below the floor of the room. [section]

Runnel

Along the back of the room runs a runnel 40 cm deep and 35 cm wide, that continues through the wall to the Urinals []. In each partition, a brass/copper pipe \varnothing 10-15 mm is set in the runnel 40-45 cm above

the topmost platform, or just above the bottom of the runnel. The same feature is found in the Urinals. The runnel does not appear to have other outlets.

Pipes

A copper or brass pipe \varnothing 45 mm is set crudely into the side of the runnel and leads to the space behind the blind window in the Cool room. An iron pipe \varnothing 20 mm is set in the wall above the runnel and transfers to a \varnothing 35 mm iron pipe through a t-connection also offering an open end brass bend just above the runnel. The continuing 35 mm pipe leads to the same space behind the blind window in the Cool room. An iron pipe \varnothing 35 mm is set in the wall just below the first but is cut and left open level to the wall. Around the two iron pipes there is a patch about 40 cm across of cement fillings in the wall seemingly only with the latest two layers of white paint. The passage of the pipes into the Cool room has been left a gaping hole with its lower part patched with unpainted cement [].

Drain

To the right upon entering the room is a drain covered by a perforated square brass/copper plate. The bottom appears 30 cm below the floor with some moist visible.

Electricity

Electricity has been fitted and drawn from the corridor along the wall to the left upon entering the room to a fitting for a light bulb. Traces remain after an earlier wiring, exposing the cream coloured layer of paint under the topmost whitewash. Along this exposed line it is clear that the rough brush strokes does not lie in the whitewash but in the lower layers, possibly the cream coloured one.

Original use

Partitions with hangings

Although the low height indicated by the holes on each side of the passage to each of the partition would have made them cumbersome, it would have made sense to use hangings for more privacy while the bath house was still in use.

Using and emptying of pits or holes

The mere existence of a sewer would suggest that the function here was not that of pit latrines and the possibility of using water that would run down into the holes further suggest that they lead to a sewer since adding water to the pits would make their emptying difficult. If the narrow courtyard housing a stair between the building and the one opposite the room was an accessible alley to service the bath house it is technically possible however that these were indeed pit latrines and emptied from the alley.

Retrieving water

The 1993 guide mention that water was fed from a well on the outside and refers to the extension plan that wasn't carried through but indicates a covered well where there is now a towerlike structure at the end of the narrow courtyard. While the space between the buildings could be briefly surveyed, it hasn't been possible to verify the existence of an old well. There are things counting for and against such a feature however. The space indicated in the extension plans corresponds roughly to the structure standing there today and there is some evidence that it is an original feature. On the other hand, a second well would have required additional staff seeing that the runnel can keep only so much water for washing.

Use and removal of water

The pipes set in the runnel above each hole in the partitions was most likely used for washing oneself and the water would run down into the holes. One might wonder whether the runnel was used to wash

hands although using water from the pipes. It is likely that some type of tap was fitted to each pipe and the runnel kept with water.

The surprisingly crude insertion of the pipes in walls and runnel as well as the hole left where they lead to the Cool room rises several questions as to when the various pipes were added and how they have been altered since then. The brass/copper pipe is likely to have been the original one seeing that it has been cut and other original pipes in the building having been made using the same material. Its current location is not logical however and much in the way of anyone using the partition that it passes. It would also offer only a limited pressure to the fountain to which it would be leading water, with a height of the bottom of the runnel only some half of a meter above the mouth of the fountain. The difficulties involved in putting down new pipes to the fountain would indicate that the pipe leading downwards from the space behind the blind window in the Cool room is an original feature although it is made of iron which puts some doubts as to the accuracy of this assumption. The vault however makes sense yet a tap would in that case be missing from the t-connection offering water to the runnel from the same pipe. The Ø 35 mm iron pipe cut level to the wall might be explained if it was original to the time when tap-water was installed but later exchanged for the thinner pipe connected to the Ø 35 mm iron pipe leading towards the fountain.

Damages

Damages to floors and tiles

Discolouring of white tiles where recessed. Remains on all tiled surfaces of a cement cover, especially along walls and on topmost platforms of the partitions. Some cracked white tiles.

Damages to walls and ceilings

Crude added layers of paints on top of original surfaces. A red discolouring of the whitewash along the outer wall and mold in the corner towards the Urinals indicates moisture entering the construction, probably from the space between this wall and the

northern one of the adjacent houses. The space in question is poorly kept and lacks plaster on top of the stone and mortar construction, which further indicates it as the source of moisture. Water appears to have been leaking from the midmost light shaft and there are slight traces of mold in the shafts themselves. Crude cement fillings occur around all insets of larger pipes and a gaping hole is left where the pipes lead to the Cool room.

Damages to systems

See “use and removal of water”. The state of the drainage and connection to sewers cannot be assessed without extensive investigations. The system must be considered to be blocked until further investigated.

105 Warm room (incl a-b)

Surfaces and structures

Floors and tiles

Central floor tiled with black and white marble, 32 x 32 cm in a pattern centred under the dome. The two barazas are tiled in a checkered pattern with a border of white tiles. The checkered pattern of the baraza facing the door is set diagonally. The space under the opening towards the inner corridor is laid in the same diagonal pattern but lacks the white border.

The floors of barazas slant towards the centre of the room while the central floor tips diagonally away from the corner between the barazas, although with an indication of a plateau around the middle and towards the same corner.

Walls and ceilings

Painted light blue (lower) and white. A shift in underlying layers occurs at a height of 185-195 cm above the slanting floor. The wall towards the outer corridor (103) is painted all white but has a shift in underlying layers corresponding to that in the other walls and can be assumed originally to have appeared the same. This is further indicated by the colour of the exposed lower plaster surface in the opening

towards the outer corridor, with the same colour as other lower parts of walls. The shift itself is not exposed anywhere in the room and neither does the few exposed surfaces offer any clues to the thickness of the underlying plaster although it otherwise has the same appearance as in other rooms.

The ceiling doesn't offer any exposed patches of layer below that of the whitewash and the only clue to its previous surfaces would be that it would feature the light coloured plaster stretching from the shift lower on the walls and upwards and otherwise likely was painted in the same fashion as the ceiling of the Cool room, with cloud-blue, white, cream and white.

Features

Under floor heating

As indicated by the placement of the furnace (under the hot plunge pool) and chimney (behind the baraza to the left upon entering the room) as well as the compliance with Persian hammam tradition, the central floor of the room has an under floor heating system driven by exhaust fumes from the furnace. The baraza facing the door would be difficult to heat following its location while the one close to the chimney might be covered by the same heating system as the central floor.

Barazas

Both barazas are raised by 10 cm above the central floor. They feature the same style of Arabic arc vault as the barazas of the cool room. The nails are likely additions during later uses of the building such as when it was employed as an event space for a festival in the last decade.

Drain

A drain runs along the wall towards the outer corridor and continues to the inner corridor to end in the Urinals.

Chimney

Behind wall of the baraza to the left upon entering the room is a vertical shaft leading to a chimney on top of the roof. There is now a hole in the wall into the vertical shaft, most likely made during the restorations to allow for ventilation of the room similar to the way ventilation has been added to most of the other baths of the island during restorations. An old photograph of the roof depicts the chimney as short with a lightly adorned cap made from plaster.

Skylight

The dome features an octagonal skylight with 16 light shafts.

Electricity

Electricity has been fitted and drawn from the outer corridor along the wall of the same corridor and to the inner corridor. One fitting for a light bulb is set on the wall. Traces remain after an earlier fitting under as well as next to the existing one.

Original use

Barazas, floor and massages

The heated floor is a feature in all types of hammam although differences occur as to whether the floor itself is used for massages or if a raised table is used for that, such as in Turkish tradition. Here however massage would be given on the floor which would also be used for relaxing either sitting or lying. It is possible that the nails that appear to be old were an early addition to use as hangers since such uses can be noted in some Persian hammam in Iran but they would rapidly have produced streaks of rust which makes this assumption less likely.

Seeing that similar spaces were employed in hammam in Persia, it seems likely that the niches were used accordingly, as places for relaxation off the hotter floor or for waiting one's turn. Depending on the number of visitors it is possible that the barazas were used as well for massage or scrubbing, as seen in other Persian hammam in Iran []. In Persian tradition

these spaces most often featured pools with water just deep enough to comfortably sit with one's feet in. This function however is not employed in any of the Zanzibari hammam.

Use and removal of water

As in Persian hammam still in use in Iran water would have been gathered elsewhere (presumably from the basins in the inner corridor and the service room) and brought to the floor and barazas. The water would drain towards the runnel and possibly around rather than over the plateau of which there is some evidence. This would have created less of a nuisance for bathers lying on the floor if and when water was poured on someone in the barazas or close to them. It is safe to assume however that the floor was constantly wet and that some courtesy would have been shown between bathers.

Damages

Damages to floors and tiles

About 25% of tiles on the central floor are cracked, especially towards the centre of the room. The tiling of the barazas remain with only a few cracked tiles. Heavy discolouring is evident on most white tiles and a thin layer of cement covering many patches of the floor. Remains on all tiled surfaces of a cement cover, especially along walls.

Damages to walls and ceiling

Mold on and behind paint on walls and ceiling of the eastern baraza, 105 b (see floor plan). There are also some traces of salts springing from the lower layers of the same walls.

Mold and some algae covers patches of the ceiling and appears to stem from both moisture in the construction and water leaking from the skylight. Algae grow in all light shafts of the skylight and around those 5-7 that are leaking.

Damages to systems

The state of the under floor heating system cannot be assessed without extensive investigations. The same is true for the drainage. The first steps to survey the heating system would be to test whether any flow can be carried at all from the place of the furnace to the chimney and after see whether it is possible to map the system of ducts using a heat camera, possibly while drawings heated or cooled air through the system.

106 Inner corridor

Surfaces and structures

Floors and tiles

The corridor is tiled with marble, 32 x 32 cm in alternating rows of black and white across the space []. The stairs up to the immersion pools (four steps each) are tiled accordingly, with the first step of each being black []. The basin at the left end of the corridor is tiled in white with decorations in black tiles []. The floor slants towards the drain along the southern wall of the corridor.

Walls and ceilings

No surfaces of plaster have been exposed and the thickness of these layers cannot be determined. Neither can colours or number of added paints be determined without removing the added paints themselves. However a shift in underlying plaster is clearly visible at 190-200 cm above the floor. Note that the shift between the lower and upper layers of plaster rises with about 30 cm as it passes into the both pool rooms [].

Features

Drainage

A drainage runs along the southern wall of the corridor, is continued from the warm room and runs into the urinals (107) []. Both immersion pools drains to the corridor. The cold immersion pool has an outlet set in the second step up to it [] while the hot one has an outlet set just above the floor with a

small sink about 15 cm deep beneath []. There is no evidence of a drain directly from the sink though its existence would suggest there is one. There is evidence of water having run across the remains of cement on the floor beneath the outlet from the cold immersion pool which indicates that water have repeatedly come through the pool even after the restorations. This corresponds well to the evidence of water still standing in the pipes to the pool (see room 108).

Basin

A mortar, plaster and tile basin 35 cm high and with inner dimensions of 65 x 50 cm is located at the east end of the corridor, close to the service room []. There is no evidence of a direct drain from the basin but a brass/copper pipe Ø 27 mm drains through its side to the floor.

Two brass/copper pipes Ø 45/23 mm are set in the wall towards the boiler of the hot immersion pool and the lower one can be discerned as a covered patch 45 cm above the bottom of the boiler []. This points to that the lower one carried hot water while the upper one would have carried cold water from the reservoir on the roof.

Pipe

An iron pipe Ø 80/70 mm runs across the end of the corridor from the cold immersion pool (108) to the tunnel in the urinals (107) [].

Window and opening

At the west end of the corridor, labelled blind alley in the 1993 guide, a large part of the wall has been removed and subsequently blocked using concrete blocks []. The opening is a little less than two meters height and a meter wide, with its base a meter above the floor. It's not possible to determine what layers of paint have been applied on the blocks. The same cement block wall is visible from what is now a narrow open space between the bath house and the adjacent building []. The niche itself feature both a ragged but whitewashed coral stone construction, cement surfaces and concrete block masonry. The

opening would have been at ground level from the outer side. At the upper part of the removed part of the wall are the remains of a window like the other in the building. The concrete block wall is set level to where the window would have had its outer edge, which rises some question as to the reasons for the coral stone and mortar wall in which the concrete blocks are set on the outside of the building.

Electricity

Electricity has been fitted and drawn from the warm room along the corridor and back along the opposite wall to the service room. Branches to the urinals and immersion pools. One fitting for a light bulb is set on the wall towards the urinals.

Original use

Basin and gathering water

This basin with its two taps for hot and cold water is a signature feature in many types of hammam. It is less so however in Persian tradition since you would not employ your private basin as in Turkish or Syrian tradition []. The lack of space around it for visitors to sit down for scrubbing also points to that it was mainly a source of water and it is possible that its drain was opened only to let out water at closing time, which would make it useful for mixing water to a comfortable temperature as is the case in Turkish and Syrian tradition, where the drain may be missing altogether. It is also unusual in the context of Zanzibar bath houses, since the other had tap from each of the warm and cold immersion pool and no fixed basins at either them [].

The blocked opening

It's possible that it was added perfunctorily when the adjacent building was erected or it was part of the restorations, as a measure to support the original wall of the bath house. The latter is less likely however considering that an opening has been made in this layer of the wall, to admit access to the bath house from the adjacent building. It appears likely that the opening was made during the time when the

1993 guide mention that the building was used by squatters. Perhaps the tenants of the adjacent house used the bath house as extra storage or living space and thought it more convenient to use an obscured entrance rather than the one towards Hamamni Street.

Window

It is likely that glass covered the window to retain heat in the warm room.

Damages

Damages to floors and tiles

A few cracked tiles at the base of the steps up to the both immersion pools. Heavy discolouring of all but a few white tiles. Remains on all tiled surfaces of a cement cover, especially along walls and at the west end of the corridor.

Damages to walls and ceiling

Mold on and behind paint at port ends of the corridor and particularly the western end (see floor plan) where there is also at least one patch of loose plaster. There is mold in all but one light shaft but none of them appears to be leaking. Seeing that the outside of the wall towards the adjoining house is unplastered and constructions connected to it haphazard, it is likely that the damages at this end of the corridor are due to water entering the construction from there although it is possible that the roof itself is leaking. The now blocked opening has left a rectangular niche in the outer wall, partly obscuring that a single small window was likely the only feature of the wall.

Damages to systems

The taps are missing from the cold and warm outlet above the basin and the pipes themselves are plugged using iron. All drains appear to be unblocked. The pipe across the end of the corridor is rusty but likely still unblocked.

107 Urinals

Surfaces and structures

Floors and tiles

Cement floor on all surfaces. Whether there are marble tiles beneath the cement floor cannot be determined without removing cement [].

Walls and ceilings

No surfaces of plaster have been exposed. However a shift in underlying plaster is visible at 210-215 cm above the floor, or around 180 cm above the raised platforms of the four partitions.

Features

Partitions and runnel

Four partitions have been created using walls 150-160 cm height from the raised floors of the partitions. No original surfaces of these walls are exposed. The partitions are partly shielded from view and the gaps between the walls where the partitions are entered feature symmetrically located holes with a diameter of 30 mm at a height of 180 cm from the floor (155 cm above the floors in the partitions) [].

Along the back of the room is a runnel 40 cm deep and 30 cm wide, that continues through the wall to the Latrines []. In each partition, a brass/copper pipe $\varnothing \sim 24$ mm is set in the runnel 85-90 cm above the floor, or just above the bottom of the runnel. The same feature is found in the Latrines. The runnel does not appear to have other outlets.

Drainage

The drain along the corridor continues as a channel under the floor into the room along the east wall. It meets a runnel running along the inner wall in the inner eastern corner of the room and continues as a channel underneath the runnel [].

Pipe

An iron pipe $\varnothing 80/70$ mm runs from the wall of the corridor to the runnel. It originates in the cold immersion pool and slants downwards towards the runnel []. A hole remains in the wall where the pipe is set but it has been covered from the corridor. A brick like those used for the exterior decorations and the furnace is stacked together with mortar and coral stone in the hole. A crudely filled up remains of a hole exists where the pipe is set into the runnel [].

Window

A window is set in the farthest short end of the room about 3,5 m above the floor. It has been blocked from the outside, with a cement surface appearing behind a broken pane that has been crudely cut and set in the opening and then partly painted over with the same whitewash as the plastered surfaces [].

Electricity

Electricity has been fitted and drawn from the corridor. One fitting for a light bulb is set on the wall close to the opening.

Original use

Partitions and runnel

Despite the low height indicated by the holes on each side of the passage to the partitions, it would have made sense to use hangings for more privacy and the remains of wooden rods in corresponding holes found in the latrines further suggests this is the reason for the feature.

The pipes set in the runnel in each partition was most likely used for washing oneself and the water would run down into the runnel. It is likely that some type of tap was fitted to each pipe and the runnel kept with water to serve these.

That the pipe coming from the cold immersion pool slants towards the runnel would indicate that it hasn't been used to supply water to the pool but would rather have supplied the runnel with water.

This would negate the need for the second well that is mentioned in the 1993 guide. It is possible that the well that is mentioned was only part of the adjoining house, rather than utilised by the bath house. This assumption would go hand in hand with the pipe being used to supply water to the runnel. In such a case however, the use of iron instead of brass/copper rises questions as to whether it is original or a repair or alteration. Brass/copper is otherwise applied to all piping that appears original in this and other bath houses on the island. The crude way it has been inserted also points to a later addition or alteration or that it was removed for some reason and crudely reinstalled during the restorations. If it is not an original feature, other pipes must have been installed in walls or floors to carry water to the fountain and possibly to the runnels. This is quite possible but would have implied a system very difficult to maintain.

Window

It is likely that some sort of screen or glass covered the window to provide privacy from the adjoining house. A screen or plain opening would have provided some ventilation of the space which would also seem natural.

108 Cool plunge pool

Surfaces

Pool, walls and ceiling

Plaster with subsequent layers of blue and two or three white paints. The original surfaces are exposed on two patches showing the lower earth coloured and upper light plaster. The shift itself is not exposed but would be set somewhere between these patches at 180 - 230 cm above the bottom of the pool which would be up to 30 cm above the height of the shift in the corridor and thus corresponding to the rise of the shift evident from the corridor into the warm pool. The bottom itself is covered by a layer of cement but it could not be determined whether it is a wash or a filling.

Features

The pool

The pool feature one circumventing internal step 55 cm below its rim and 30 cm deep as well as a second step along the side towards the corridor, 26 cm below the first and 28 cm deep. The drain is located level to the bottom and leads out into the corridor []. The floor doesn't slant significantly towards the drain.

The opening towards the hot pool

The room feature an opening 90 cm wide and about 1,5 m high towards the hot immersion pool and a drain between the pools through a brass/copper pipe Ø 68/64 mm []. The surfaces around and along the pipe are crude and show traces of having been removed and refilled.

Pipes

One iron pipe heavily rusted Ø 50 mm set at an angle out from the wall between the two pools, with big brass vault plugged with iron. An identical pipe and vault is set on the other side of the wall, in the hot immersion pool. Another iron pipe Ø 35-45 mm set in the exterior wall with smaller brass vault. Both vaults have drops of water hanging from them and there is evidence of water having run across the surfaces below []. There is also a drain between the pools (see above).

Window

A window is set in the western wall about 2,8 m above the bottom of the pool. It has been blocked from the outside, with a cement surface appearing behind a broken glass pane. The pane is set in a neat but broken plaster frame and is splattered with the same whitewash as the plastered surfaces [].

Electricity

Electricity is drawn from the corridor to a fitting for a light bulb above the opening. Traces remain after an earlier fitting under the existing one and wiring through the opening towards the hot immersion pool. It has been painted over by the topmost whitewash.

Original use

Immersion pools such as this one are common in Persian hammam as well as in Egyptian and Moroccan tradition []. It is employed in all of the Zanzibari Persian baths with this one being different in offering a circumventing step in addition to a stair into the water. It is possible that it reflects a desire to facilitate use or even to encourage the social aspect of seating several people.

The arrangement of the pipes would suggest that the pools were originally filled from separate taps, being the two identical ones on opposite sides of the wall separating the pools. The narrower pipe would be a later addition when tap water was installed and the drain between the pools would allow them both to be filled from this single tap. This assumption would explain the indications that the drain between the pools was part of an alteration. It is however not clear why iron pipes would have been used for the original installation when all other evidence points towards brass/copper pipes having been the preference. The two mirrored pipes appear crude, protruding without support or care for aesthetics in choice of material but their inset in the wall is smooth compared to that of most other fittings in the building, which further indicates them as original. The use of iron pipes however would explain the lack of a brass/copper pipe where water is supplied to the fountain in the cool room. The drain towards the runnel of the urinals and latrines might be explained the same way as the one between the pools but such an assumption doesn't explain why different materials were used for the two drains and there would be little reason to draw water to the runnel this way when a second fitting for tap water remains by the runnel in the latrines. Whatever the use, the pipe would have had to be covered to prevent water from overflowing the runnel which is situated lower than the pool.

No matter the assumptions, questions remain as to why the iron pipe from the pool to the runnel appears to have been so crudely installed. It cannot be overlooked however that this suggests it is a later addition.

How much water was filled into the pools is clearly indicated by the location of the drain between the pools and the pipe towards the runnel. For water to flow from the cold pool to the hot, it would have had to be filled up to about 1,1 m, or a little less than 10 cm below the rim of the pool.

Damages

Damages to plastered surfaces

Mold on and behind paint on walls and parts of ceiling in south western corner of room. There is mold in both light shafts and a leakage of water through the window. The reason for the mold is likely caused by water entering the construction from either the wall towards the adjoining house or from the roof or cistern beside the room. All surfaces are crudely painted over.

Damages to systems

It appears as if both pipes leading to the pool holds water which might indicate they are unblocked further up as well but this cannot be verified without an extensive survey. The heavy rusting, especially of the pipe that appears to be the original source of water suggests that the system as a whole is damaged and in that case leaking. If a set of brass/copper pipes were to be found, chases are better than those present a still functional system.

109 Hot plunge pool

Surfaces

Pool, walls and ceiling

Plaster with subsequent layers of blue and two or three white paints. Original surfaces are exposed at bottom of boiler exposing plaster of a colour slightly

lighter than the lower parts of the walls and of the same quality. Its thickness cannot be determined without removing it. The shift between lower and upper parts of the walls is not exposed but a distinct shift in the underlying layers is evident at 200-210 cm above the bottom of the pool, or 30 cm above the shift in the corridor and thus corresponding to the rise of the shift evident in the opening between the corridor and the pool. The bottom itself is covered by what appears to be a cement wash.

Features

The pool

The pool feature a stair with the boiler to the left upon entering the pool and an open space to the right. At the farthest end of the pool towards the cold pool are two shelves, 50 and 38 cm high leaving another 57 cm up to the rim []. These are both 25 cm deep. The drain is recessed 5 cm into the bottom of the floor before turning through the wall towards the corridor []. The bottom of the pool slants significantly towards the drain.

The opening towards the cold pool

The room feature an opening 90 cm wide and about 1,5 m high towards the cold immersion pool and a drain between the pools through a brass/copper pipe Ø 68/64 mm []. The surfaces around and along the pipe are crude and show traces of having been removed and refilled.

Pipes

One iron pipe heavily rusted Ø 50 mm set at an angle out from the southern wall close to the cold pool, with big brass vault plugged with wood. An identical pipe and vault is set in the cold immersion pool. There is no visible moisture however there is evidence of water having run on top the latest layer of paint, leaving streaks of algae []. There is also a drain between the pools (see above).

Cement patches on the walls of the boiler corresponds to the locations of the pipes above the three basins. This translates to 45 cm above the bottom of the boiler for the basin in the corridor and 70 cm for those in the service room [].

Boiler

A part of the pool is screened by a low wall and feature a round copper/brass cauldron 1 m wide and a little less than half a meter deep []. The low wall is perforated by two openings slightly raised from the bottom []. The cauldron is set above the furnace accessed from the stokers room.

Electricity

There are no immediate traces of wiring or fittings. There are remains however of wiring above the cold pool and into the opening between the pools, to indicate that at least some lighting has been installed but removed.

Original use

Entering bathing and exiting

The lack of a place to sit compared to those of the cold immersion pool indicates that the hot pool was a brief stop for visitors. The depth of the water is indicated by the location of the drain between the pools and would have been 135-140 cm.

The shelves below the opening to the other pool are not wide enough to use as seating but rather suggests they were used as steps which in turn would imply that visitors would have climbed into the hot pool and moved towards and through the opening to sit down in the cold pool. The size of the hot pool could be explained thus, as accommodating for bathers to pass each other in the event that some would prefer to linger in the pool. The design of the opening however doesn't reflect this function, seeing that the kind of thin barrier employed where the pools are accessed from the corridor is much less cumbersome to pass. Not least because of its location just inside the room rather than in the opening itself. Passing the opening

between the pools is certainly possible but not as comfortable and intuitive. Furthermore it is not likely that the thick barrier came of an intention to retain heat since most of the heat would be lost through other walls and to evaporation.

The combination of immersion pool and boiler, does not seem intuitive from a hygienic point of view since water was drawn from the boiler to use in scrubbing and cleaning of bathers. This combination however exists in all Persian baths of the island and is most likely the original setup of this one as well (seeing that there is no evidence of the boiler to originally having been separate). It would suggest that bathers used the immersion pools only after scrubbing but this would have to be further investigated and compared to the Persian tradition. The lack of hygiene following the use of immersion pools and insufficient exchange of water has in fact been one of the reasons for the closing of baths in Iran.

Water to the basins

It is evident that pipes carried water from the boiler to the three basins. The difference in height for the outlets might have resulted in a slight difference in temperature but it is unlikely that the difference would be significant enough for this to be a conscious feature.

Damages

Damages to plastered surfaces

Limited amount of mold in parts of ceiling in south western and north eastern part of room. There is mold in all but one light shafts and a leakage of water through the one above the boiler. The reason for the mold is likely caused by water entering the construction from the roof or cistern adjoining the room and from the roof respectively. All surfaces are crudely painted over and there is some evidence of salts being extruded from the underlying layers of the southern wall.

Damages to systems

It appears as if the pipe leading to the pool has held water some times after the restorations and that they are now dry could point to that they are unblocked further up. This however cannot be verified without an extensive survey. The heavy rusting further suggests that the pipe has held water and that the water or condensation caused by its cooling effect is or has been causing it. The system as a whole must be considered damaged. If a set of brass/copper pipes were to be found, chases are better than those present in a still functional system.

110 Service room, entrance

Surfaces

Floors

Tiled with black and white marble, 32 x 32 cm in a checkered pattern with a row of white tiles along the walls. The opening from the corridor is tiled in black. The floor slants towards the corridor.

Walls and ceilings

Other than the ceiling there are no exposed underlying surfaces. Neither is there any clearly distinguishable shift in the underlying layers to identify if and where a shift occurred between a lower and upper type of plaster. The exposed patches in the ceiling however are of the same light coloured plaster employed in the other rooms and it is likely that a darker one was applied towards the floor for reasons of homogeneous design and resistance to discolouring.

Features

Basins

Two plaster and tile basins 35 cm high and with inner dimensions of 65 x 55 cm are located along the wall towards the boiler []. One basin has an indentation in what appears to be a cement layer

covering the bottom but there is no evidence of direct drains. Brass /copper pipes Ø 27 mm drains through their sides to the floor.

Pipes

Two brass/copper pipes Ø 45/23 mm per basin are set in the wall towards the boiler and the lower ones can be discerned as cement covered patches 70 cm above the bottom of the boiler []. One brass tap remains but lacks an inset.

Removed door

A cement filling 10-12 cm wide runs along the edges of the opening towards the service room. The wall has a marked semicircular arc 7-10 cm deep before the Arabic arc of the actual passage. The right hand side shows a slight extrusion 215 cm above the floor matched by one at around 210 cm on the left side. The wall on the right hand side of the opening have patches of crudely applied cement and some of these shifts in the surface are evident around the semicircular arch. There are no exposed surfaces of plaster to further identify the features.

Entrance door

At the farthest corner of the room is a blocked opening with the surface blocking it level to the outer edge of the wall of the bath house. A hardwood beam bridges the opening and is covered underneath by a number of thin planks. The surface blocking the opening is smooth and coral stone is visible through the planks falling away from the top of the opening. There is a shift in the wall to the right of the opening corresponding to the thickness of the wall but its cannot be determined whether it is due to repairs after the removal of a door frame or part of the wall.

Electricity

Wiring has been drawn from the corridor to a fitting next to the door.

Original use

Inner door

The fillings around the opening indicates a removed door similar to the one between the outer corridor and the cool room. The inclusion of a similar plaster screen above the door itself would also explain the semicircular arc that would be the result of the fillings or restorations after the removal of the door.

Exterior door

The wooden beam similar to the one above the main entrance (as opposed to the lack of one over the conclusively non-original opening in the inner corridor) suggests that this is indeed an original entrance. As such it would have been used by staff. Other things, such as the repairs corresponding to the thickness of the exterior wall, however points to that the opening was made later although possibly while the baths were still in use.

Basins, doors and use

Hot water was likely drawn directly from the boiler and cold water was drawn from the cistern on the roof. The 1993 guide mention the room as a service room and refers to the opening in the exterior wall. The likely existence of an interior door towards the corridor further points to the room as having a function necessary to separate from view. If the room had an exterior door, the interior one would also have been necessary to retain the heat of the warm room. The existence of the basins however and that they are decorated the same way as the one in the corridor would suggest that visitors used the room. This assumption would also explain the use of marble for the floor. The low temperature of the room, resulting in part from the interior door however would have made the room less comfortable for anyone wishing the privacy of scrubbing there.

Damages

Damages to tiles

A few cracked black tiles close to the basins. White and blue paint splatter on tiles along some walls. Light discolouring of all white tiles and heavy discolouring along the walls.

Damages to plastered surfaces

Added paints remain on all surfaces but for patches in the ceiling. Some mold and traces of salts around the exterior opening and in the corner opposite the baraza in the warm room. There is mold and algae in both light shafts. The beam over the exterior opening is soft and bulges under its load.

Damages to systems

All pipes has been blocked either at the boiler side or at the basins. If the pipes are brass/copper all the way there is a good chance however that the system is still intact.

111-114 Service spaces

111 Service entrance

The steps of the stairs describe a patterned cement surface. Walls appear with a painted surface and underlying plaster close to the one used on lower parts of interior walls in the rest of the building.

112 Main well

The sides of the well are plastered, with what appears to be a soft lime mortar below the opening from the stair and a hard plaster similar to the one used for upper parts of walls in the interior of the baths. There is evidence of a platform having existed at the same height as the opening. The bottom is dry. Two iron bars have been installed across the opening as a safety measure against falling into the well.

113 Stokers room (incl a)

Floors have not been studied. Plaster or dirt was the most likely original surface seeing that the space would never be used other than by staff. Walls have not been studied. The entire room has been painted white but there is a shift in underlying surfaces about 1,5 m above the floor []. The roof is constructed using the same mangrove pole technique used in other buildings in the context []. Several poles have been crudely replaced. Mold is visible on all surfaces.

The furnace has been built using a combination of red brick, coral stone and mortar. Stacked brick is visible at the inner end and along the sides of the furnace. There is very little sooth in and none outside of the furnace. The copper cauldron protrudes with almost all its depth into the furnace, indicating that the bottom of the boiler and pool is about 30-40 cm above the ceiling of the furnace. A channel leaves the furnace towards the warm room []. The channel has not been further investigated.

114 Firewood storage

A partitioning wall separates the storage from the stokers room and ends a meter below the ceiling. A wide opening connects the spaces. Walls and floor appears identical to those in the first space. Mold is visible on all surfaces.

201-203 Roof

201 Roof service area

Flat surface. Topmost layer have the appearance of concrete but exposed vertical surfaces suggest that it is the result of growth on and possibly erosion of a white (lime?) plaster applied to the entire roof and also found in the cistern and on walls and ceilings of the interior. The surface drains to the street through a straight pipe set in the wall.

202 Well and cistern

The mouth of the well opens under a corrugated iron roof set on a few mangrove poles on thick pillars. Past the well is a cistern to which the catchment area

drains. The cistern holds approximately 20 cubic meters of water. A stair leading to its bottom of the cistern and the inlet from the water catchment area is located in the north western corner of the cistern. The inside of the cistern has a dense plastered surface alternating between greys of warm and cold hues. A brown colour spreads from all cracks and is possibly an underlying surface. Subsequent layers are one crude grey cement wash and a thin white wash.

Steps lead up to the rainwater catchment area but reaching the mouth of the well and the cistern is cumbersome, suggesting that this was done only occasionally. This would imply that a system was employed for pumping water into the cistern rather than carrying it by hand from the well. There are many uncertainties in the assumption however, such as the spacious shaft above the well which suggests that people moved in it and the complete lack of equipment or traces thereof in the well, shaft and cistern.

Between the well and the cistern is a raised runnel that was likely part of the system for taking water from the well to the cistern.

203 Water-collecting roof

The state and material of the domes have not been studied but many surfaces reveal the same plaster as used in the cistern and the interior walls. Predominately however the surfaces are coarse and dark grey with algae. There is some evidence that this is only an overgrowth since the patches of exposed white or grey surfaces sometimes occur beneath the grey. There are instances however where the reverse is true, which would indicate that the original surface has worn away to expose underlying material more susceptible to growth. These two explanations would explain that the grey surfaces vary in structure, from completely flat on vertical faces to rough on the large dome and some other patches. Even the coarse surfaces however show some remains of white.

Cement fillings occur sporadically and on some larger surfaces.

200 Exterior

Hamamni street

The major damages that had accumulated during the years before the restorations in the eighties means that much of what is seen is in fact new surfaces. There are some remains however, most notably on the topmost inside of the decorative niche on the left hand side of the door [] []. These reveal an underlying surface of white plaster 2-4 mm thick on top of red/cream mortar. The observed thickness and traces of tools from the application suggests that it is of the same type as the dense one of the roof and interior walls. Only the eroded edges of this older patch could be reached however and these were crumbling to the touch. Around this patch are surfaces of new plaster or cement. The older white plaster has five subsequent layers of paint. Cream, blue, white, cream and white [].

Beside the iron rod that holds a sign advertising the baths, there are two thin iron beams spanning across the street and evidence on site as well as an image from before the restorations indicate that such beams covered the street along the entire block [] []. This arrangement most likely held textile covers to shade the street similar to what is done along many bazaar streets []. Two types of holders remain, one type is the one still holding two beams and the other has a different shape but holes similar to the ones still holding beams. Only the first type is seen to hold beams in the image from before the restorations and this type remains along the entire block, on both sides of the street. They are more or less evenly spaced with 3-4 m between. The other holders are offset with half that distance but only some of these remain.

Above the holders are also two kinds of fasteners. One is wooden, running along the walls with numerous hooks. The other is set directly in the wall at intervals of about half a meter. There are occasional fittings on the opposite facade at the same height but with only a few remaining and of another design.

Back street

Plain facade featuring the service entrance, what appears to be the original drain from the service area of the roof and a drain from the cistern that appears to have been a later addition. Both function although the latter have caused damages to the wall beneath and most likely around it.

The walls connecting the bath house with the adjoining houses have been added to in relation to their original height.

The door is plain hardwood and not very old but there is also a discarded door and door frame in the stokers room which fits the measurements of the current one. This removed door is plain as well.

APPENDIX 3

Photographic Documentation

As part of the master thesis
Reconnection: Context, Artefact and History in
Designing the Restoration of a Zanzibari Hammam

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Department of Architecture
Master programme Design for Sustainable Development
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2014

Credits

Image 2: Originals for collage by Magnus Persson

Images 6, 15 and 16: Magnus Persson

All other images: Simon Farsi

Plan of area: STCDA

Drawings: Simon Farsi

Appendix 1: Photographic Documentation

As part of the masters thesis Reconnection: context, artefact and history in designing the restoration of a Zanzibari hammam

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Simon Farsi, 2014, rev. 2016

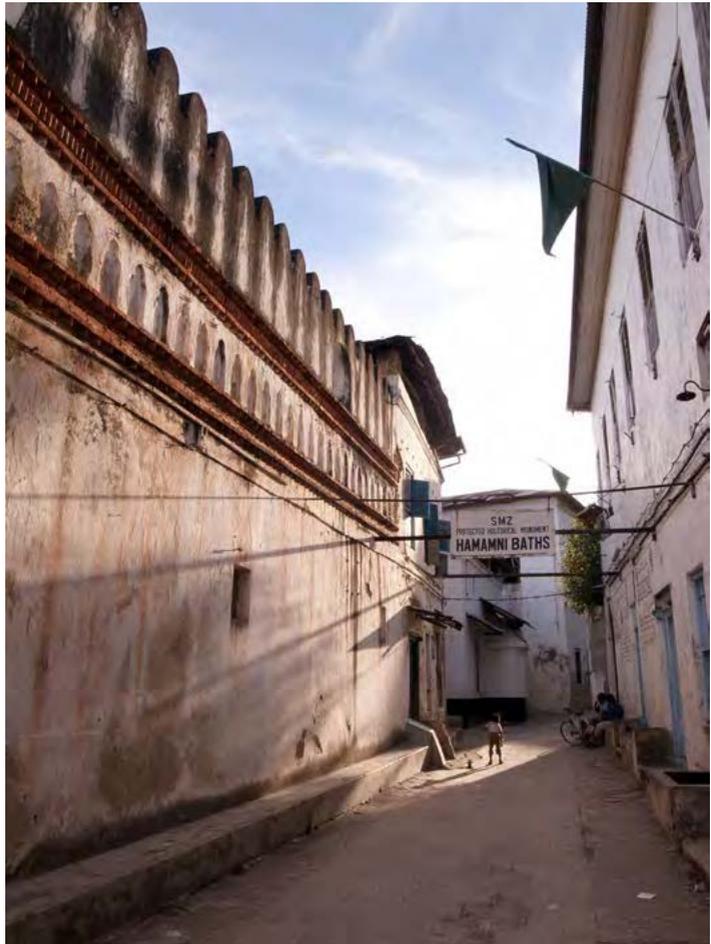
Chalmers Architecture (www.chalmers.se/arch)

Chalmers University of Technology, Department of Architecture,
Gothenburg Sweden 2014

Master programme Design for Sustainable Development

Examiner Lisa Brunnström

Tutor Inger Lise Syversen





2 Hamamni Street





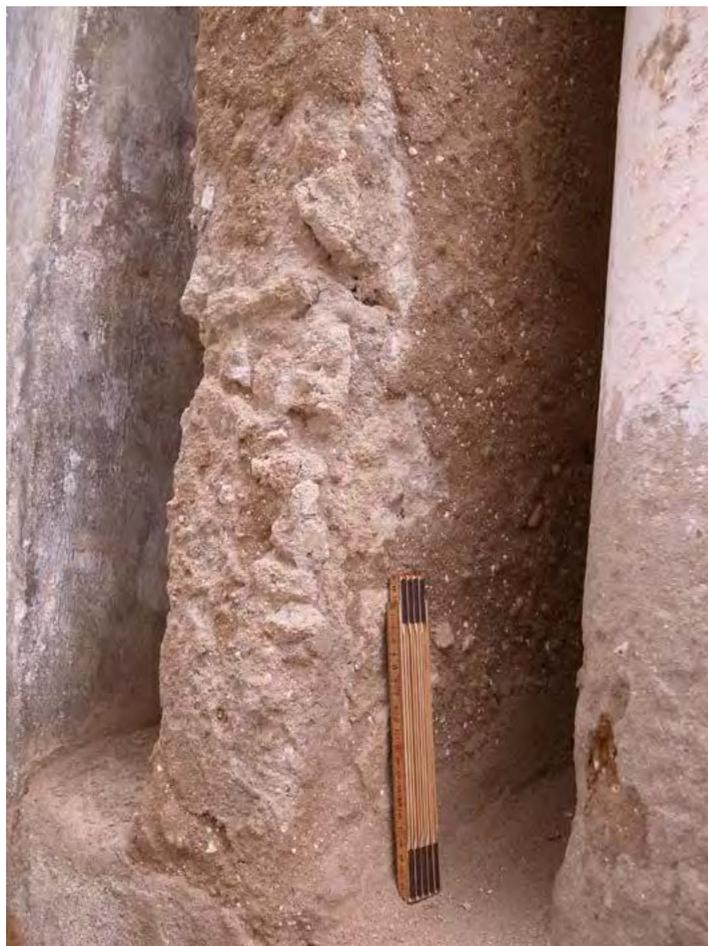
4 Back street





6 Back street



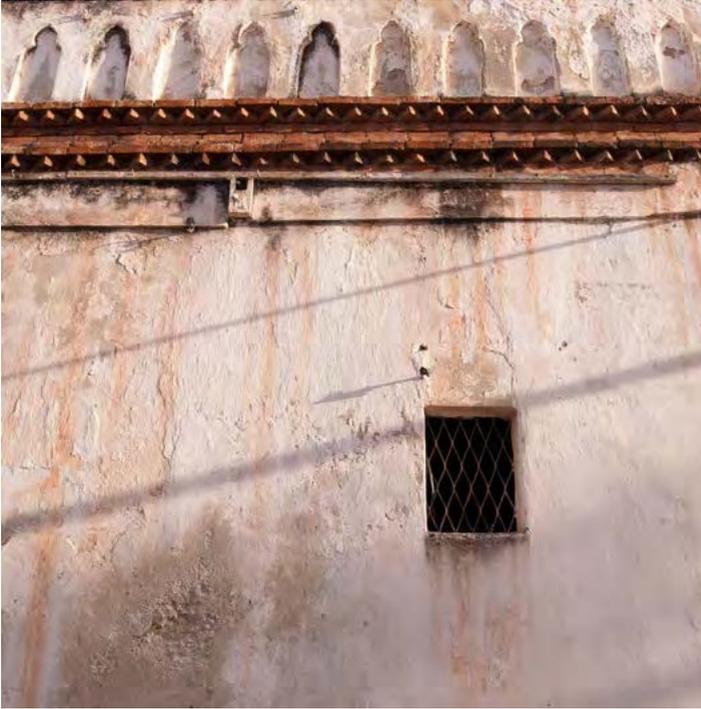


8 Hamamni Street







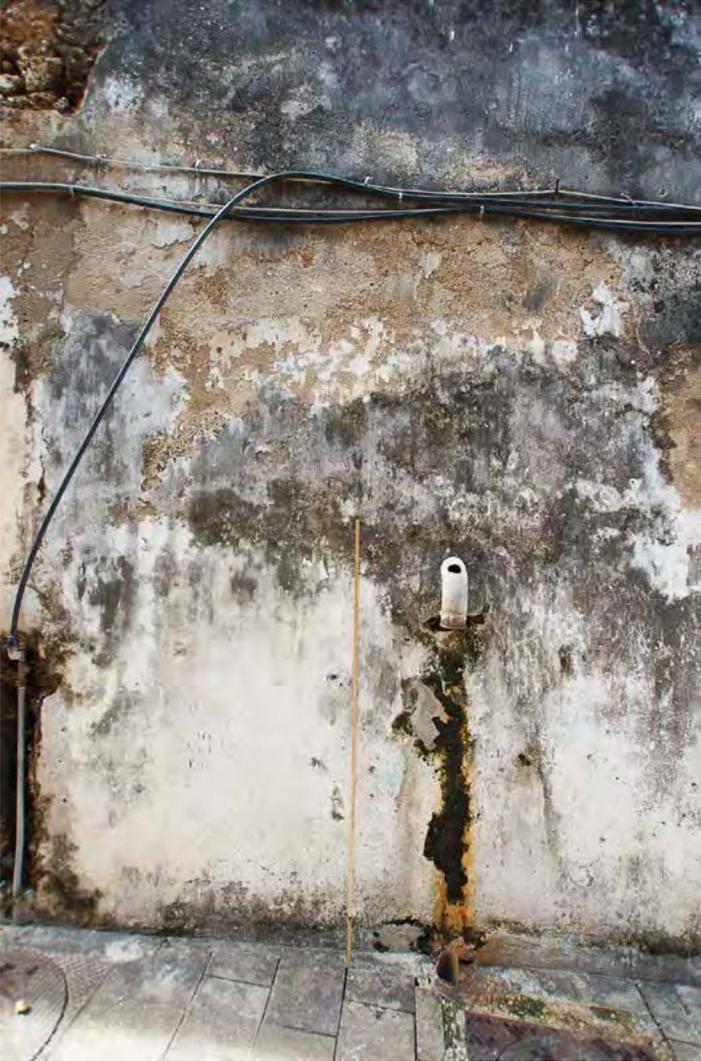






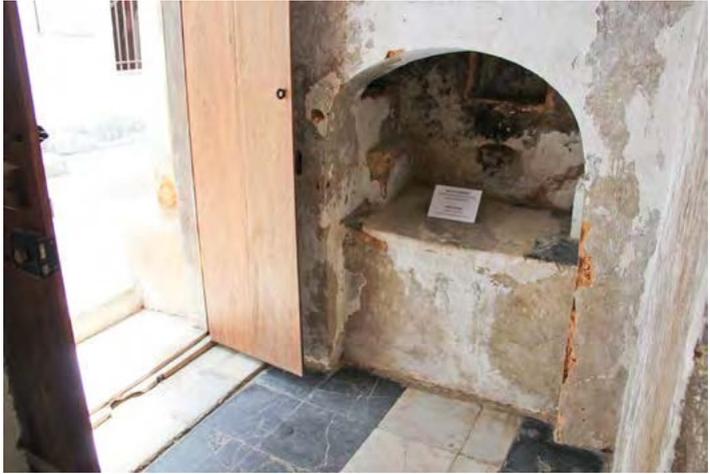
14 Hamamni Street













20 Public entrance







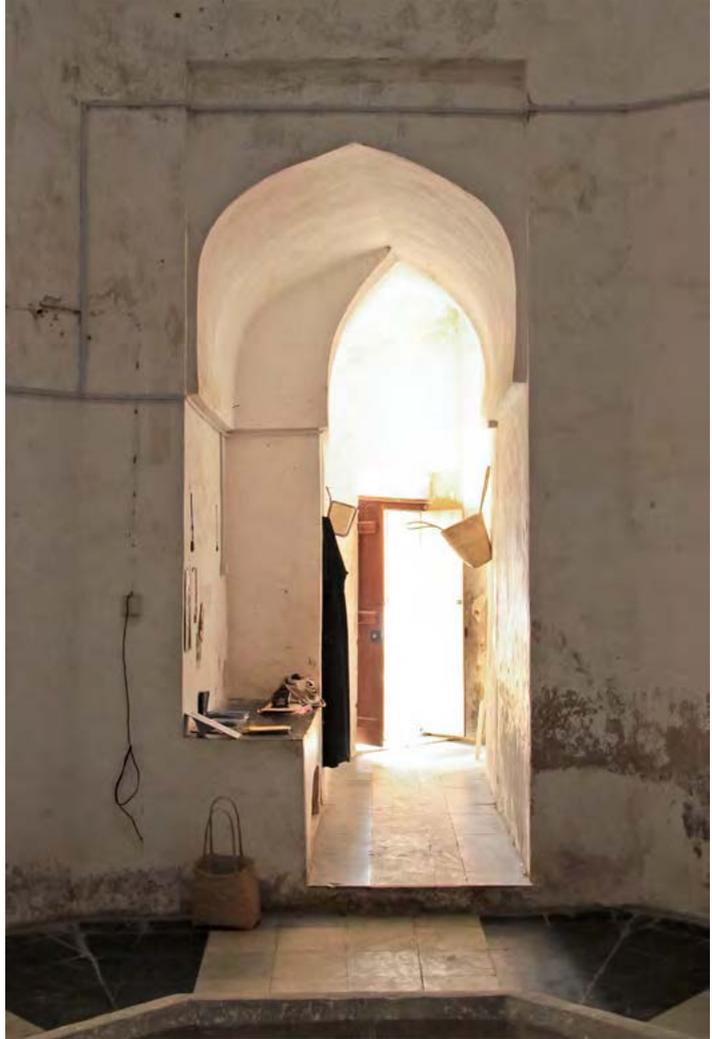




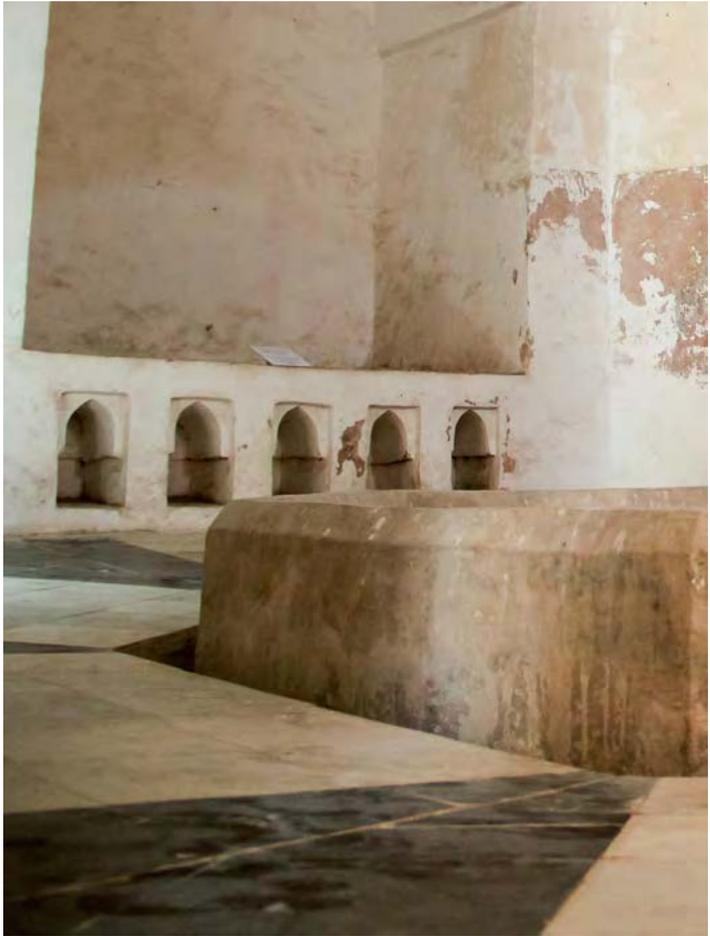




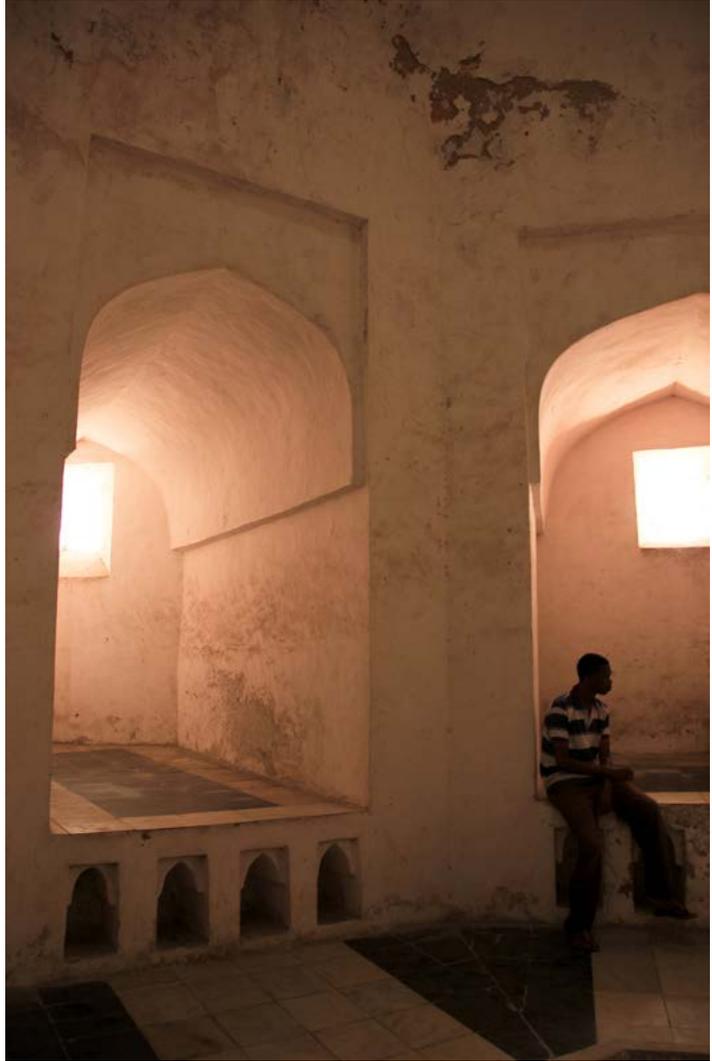


















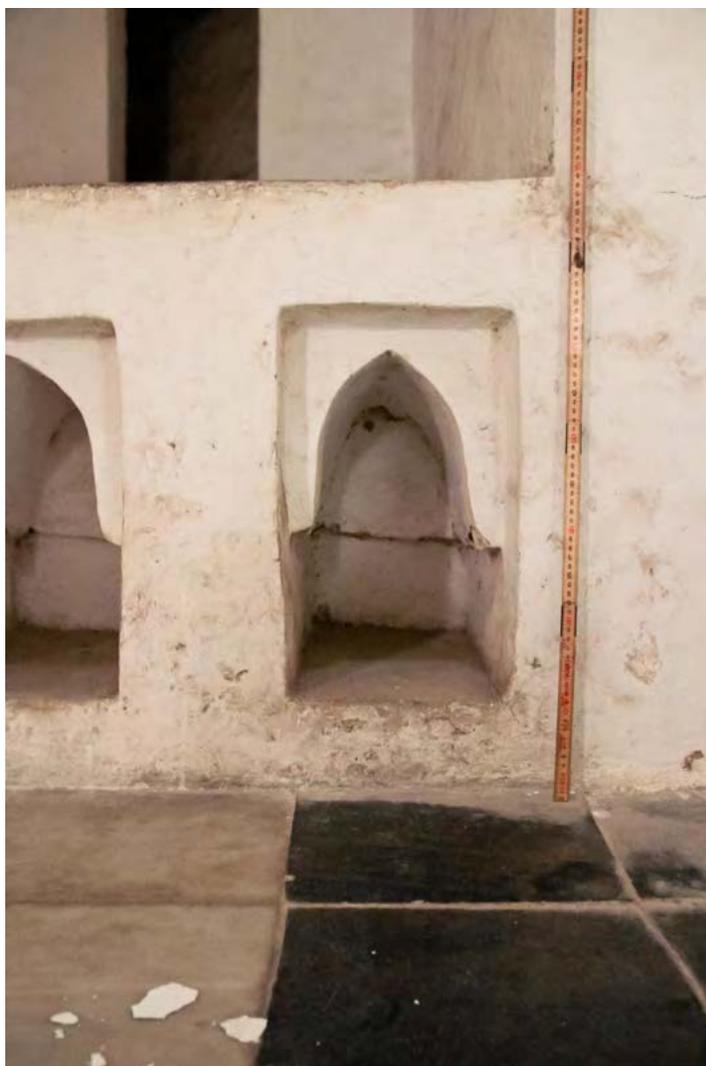




38 Cool Room













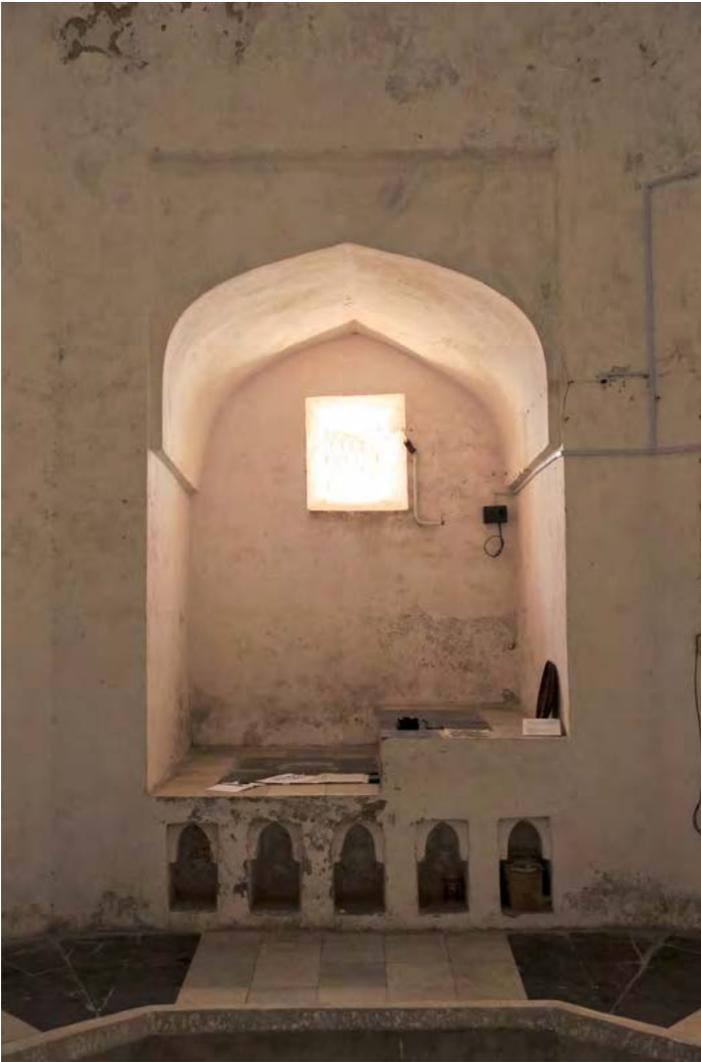










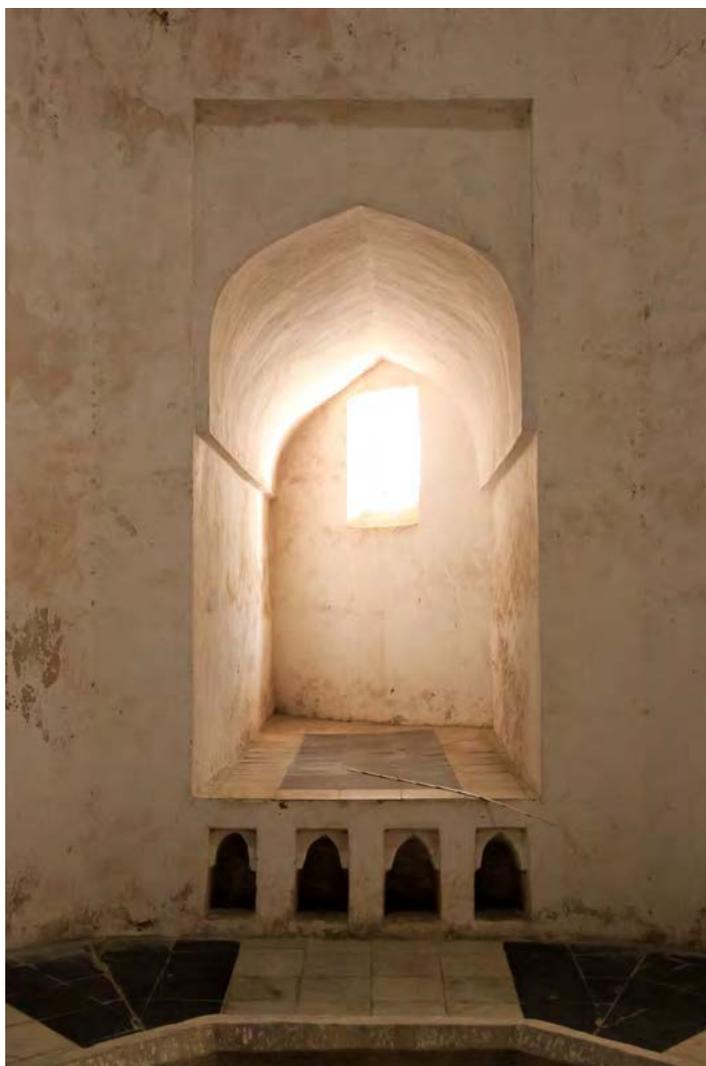
































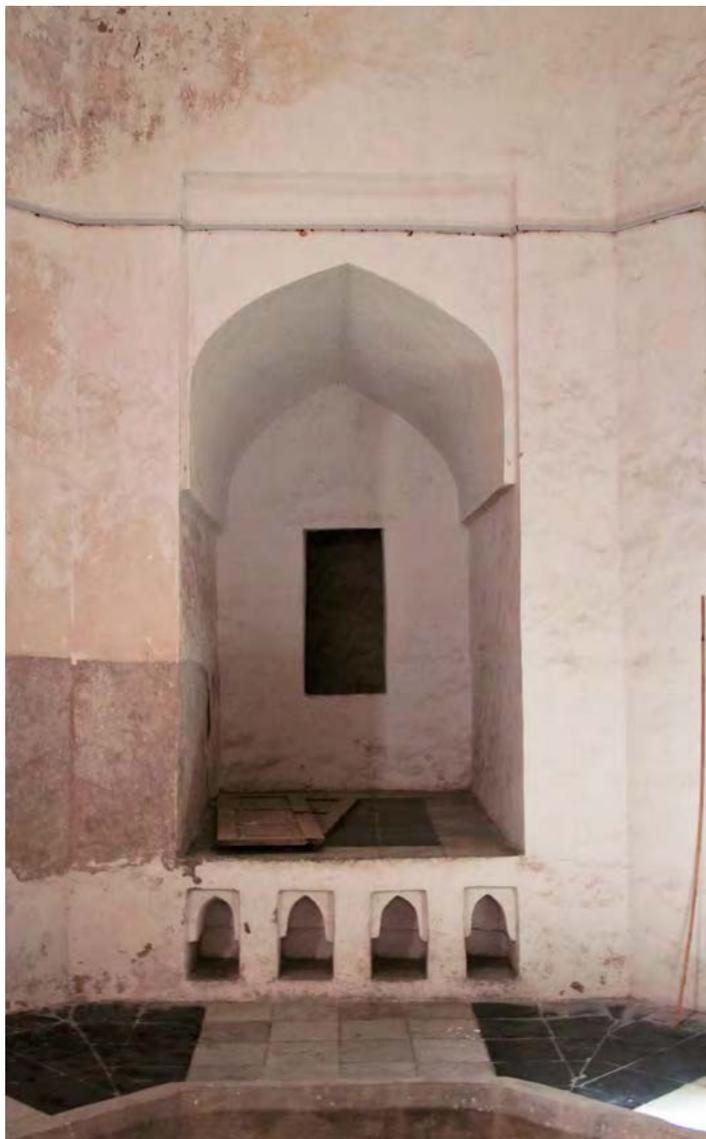






















76 102 g

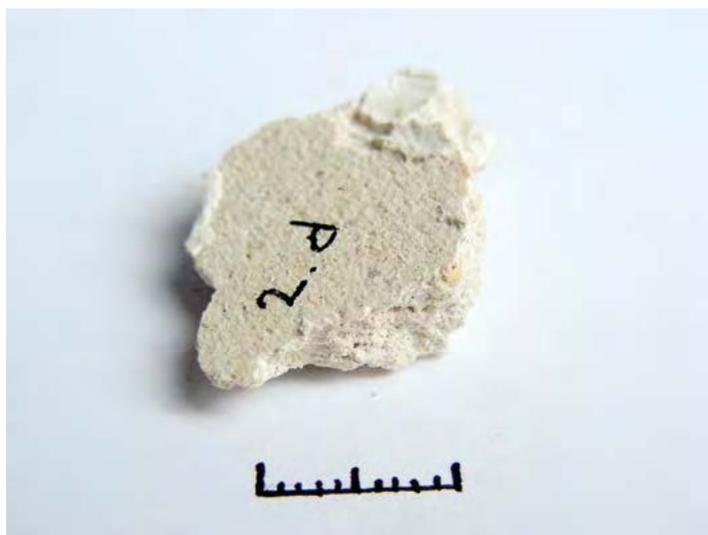


102 g 77



78 102 g



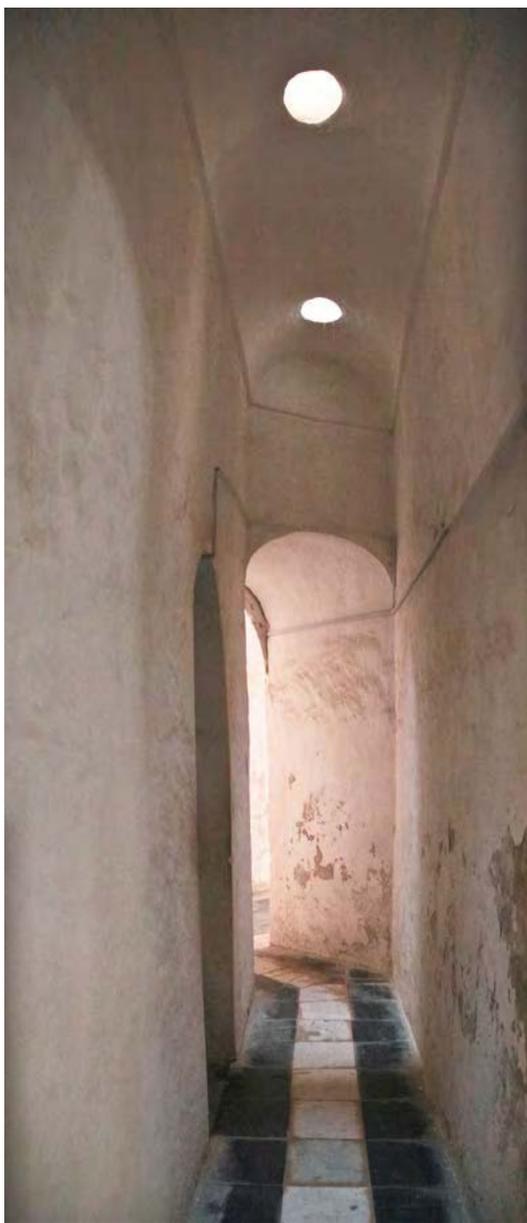


80 102 g





82 First coridor



First coridor 83





















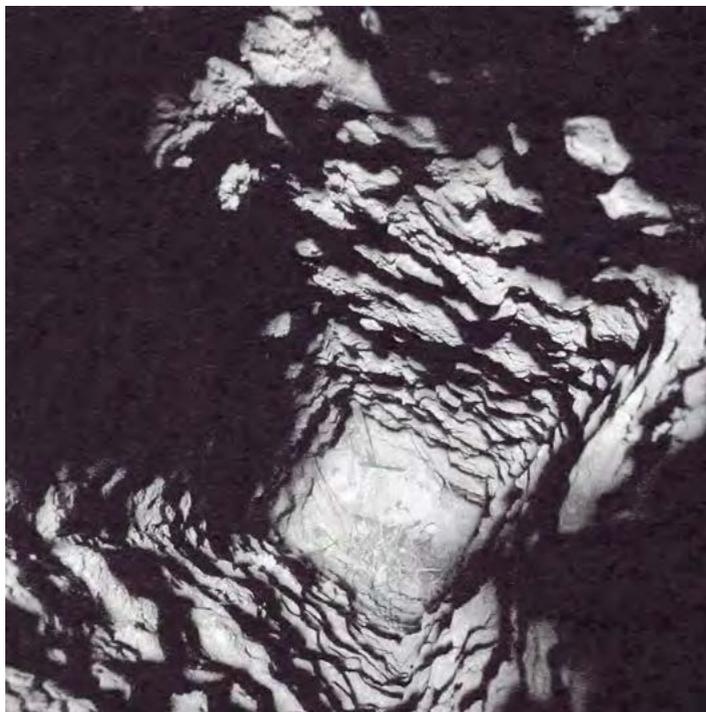




























Second Corridor 107

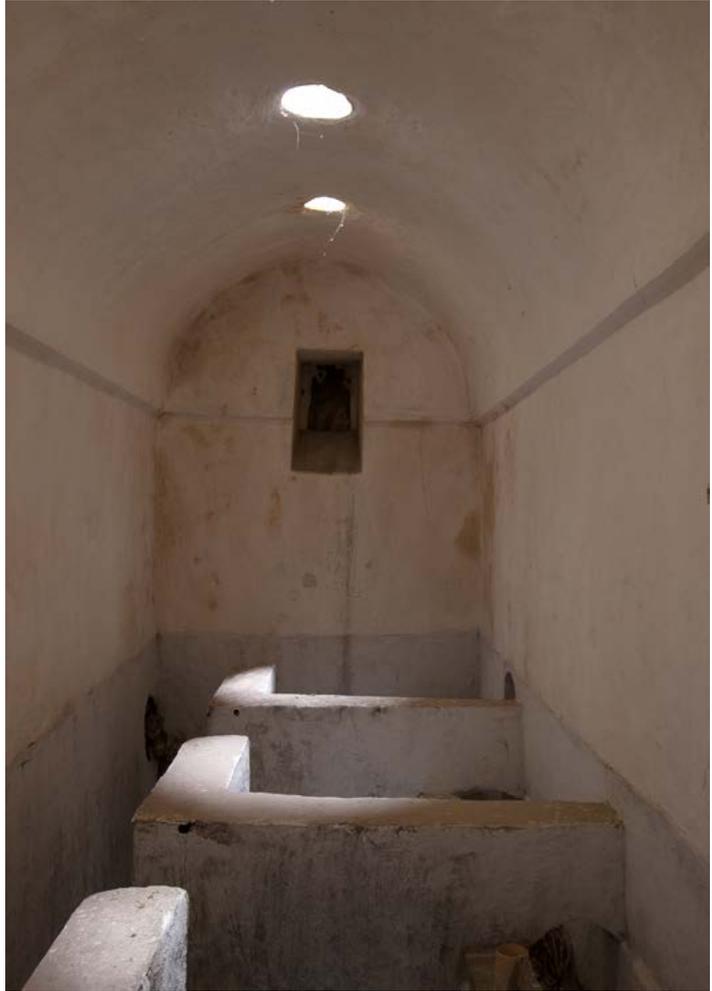














































130 Secondary entrance



Secondary entrance 131



132 Secondary entrance





134 Secondary entrance









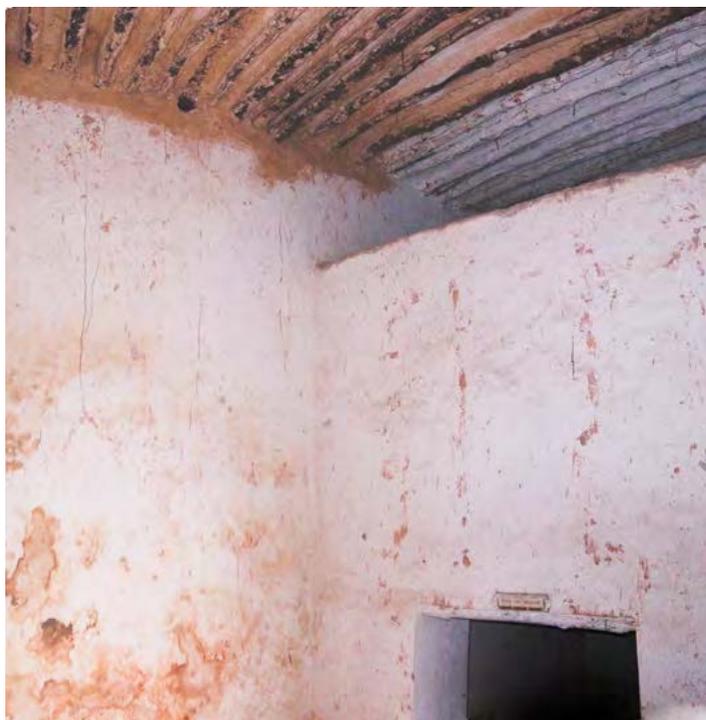




140 Service entrance











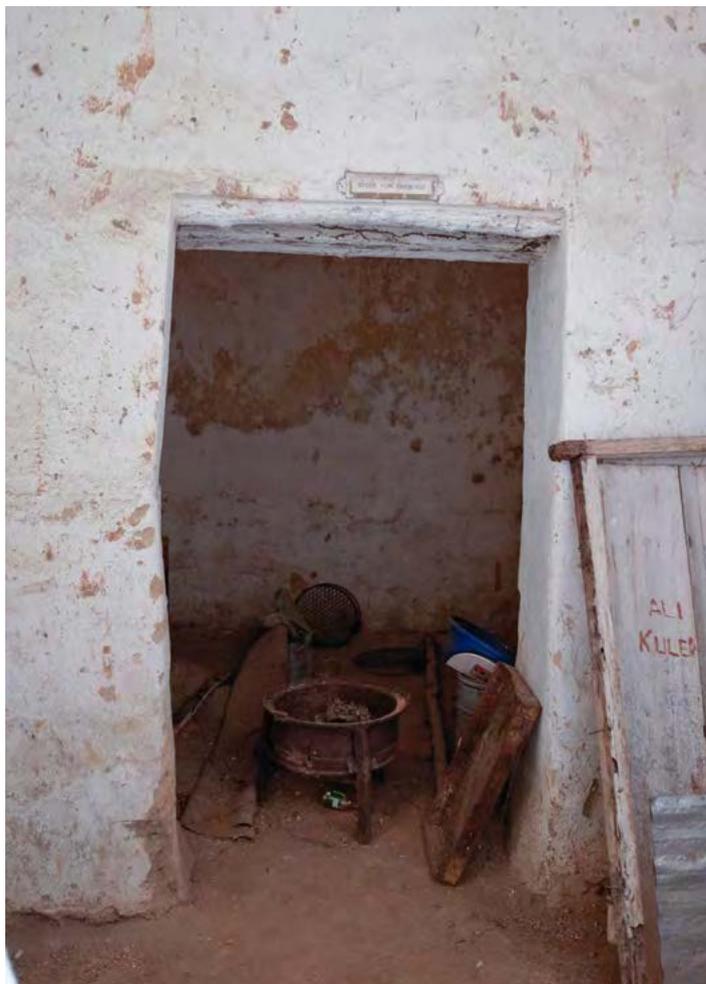












Firewood storage 151







































