



POLITECNICO DI MILANO

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Research on upscale bathroom design

Candidate: Chen Weiyi

Student Number: 803887

Supervisor: Gennaro Postiglione

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ABSTRACT

In this paper, from the perspective of architecture and space level, this paper discusses the design of upscale bathroom space related policies in upscale resort hotel and luxury residences. Firstly, starting from the dimension of history, explore the relationship between bathroom space design and bathing cultures in the East, West and Mideast, and also the development of bathroom space. The next instance of the use of high-quality bathroom space is to explore the specific design practices. Summarized and analyzed based on the above theory and examples, the proposed design features and design principles of high quality bathroom space. Provide a reference for the design and practice of high quality bathroom space in the future.

Keywords:

SPA-like bathroom, home SPA, wellness at home, Fitness in bathroom, relaxing system

contents

Part 1 Introduction.....	1
1.1 Background and significance of research.....	1
1.2 Basic Concepts.....	2
1.3 Theoretical explanations (literature review).....	2
1.4 The basic framework.....	5
Part 2 The evolution of bathroom space and the culture of bathing.....	6
2.1 Western culture and the evolution of bathroom space.....	6
2.1.1 Western culture and the evolution of bathroom space overview... 6	
2.1.2 Time line of western culture and the evolution of bathroom space	7
2.1.3 Case study of western bathroom--- The baths of Caracalla.....	7
2.2 Mideast culture and the evolution of bathroom space.....	14
2.2.1 Mideast culture and the evolution of bathroom space overview..	14
2.2.2 Time line of Mideast culture and the evolution of bathroom space	14
2.2.3 Case study of Mideast bathroom--- Sultan Amir Ahmad Bathhouse.	14
2.3 Eastern culture and the evolution of bathroom space.....	20
2.3.1 Eastern culture and the evolution of bathroom space overview..	20
---take Chinese and Japanese for example.....	20
2.3.2 Time line of eastern culture and the evolution of bathroom space	22
2.3.3 Case study of eastern bathroom---The Hua Qing Pool.....	24
2.4 Compare of Western, Mideast and Eastern bathing culture:.....	28
Part 3 Contemporary trends of home spa.....	31
3.1 The definition of "upscale"—home spa.....	32
3.2 Contemporary trends through comparative analysis of case studies	33

3.2.1 wellness experience in upscale bathroom space.....	33
3.2.2 Upscale bathroom design case studies.....	34
3.2.3 Similarities and differences between upscale bathroom design in top-grade resort hotels and in houses.....	62
3.2.4 The principles of upscale bathroom space design62 错误!未定义书签	。
3.3 Contemporary trends through comparative analysis of case studies	64
3.3.1 Fuzzy the boundaries of different function space.....	64
3.3.2 Layout reorganization.....	71
3.3.3 Emotional scenario experience.....	74
Part4 The principle of upscale bathroom design.....	83
4.1 Space layout.....	83
4.2 Scale processing.....	86
4.3 Material and colour.....	87
4.4 Lighting design.....	91
4.5 Landscape design.....	93
4.6 Furniture and equipment.....	96
4.7 Design for special people.....	101
Part 5 Future trends—— Envision possible future developments	102
5.1 Envision possible future developments.....	102
5.1.1 the feeling of time and space illusion—like time goes slower	102
5.1.2 Relaxing with visual, sense, feeling, Auditory, olfactory....	107
5.1.3 Topology bathroom space——Self-involvement, self-design.....	109
5.2 Case study of future trends.....	110
Conclusion	114
Reference	116
Supplement A.	119

Part 1 Introduction

1.1 Background and significance of research

Background:

Bathroom is a space to create infinite possibilities. From the busy crowd to enjoy together Roman thermal baths, and to today's controllable Jacuzzi, whether human beings or residential architecture have experienced a long way along the path of development. With the development of human civilization, technological advances, shuttling among today's fast-paced society, yearn for a continuous vacation atmosphere becomes the focus of public attention. Living space is no longer a place where people rush through, but gives it a more emotional expectation: warm, comfortable, modern, enjoyment, healthy, easy, energy, confidence, soothe, calm...

The evolution from yesterday's reclusive and functional bathroom to today's open and extravagant wellness oasis continues to open new frontiers. This is accompanied by architects and designers resorting to ancient bathhouse cultures, interpreting them with contemporary concepts, materials and products.

Significance of research:

With a selection of projects from all across the globe, this paper showcases an exceptional spectrum ranging from small and intimate baths to wide open spa landscapes. They all have their own special way of inviting you to immerse, relax, and let go. The multitude of design concepts presents the coming together of solid and fluid elements in architecture and interior design as an inspiration for body and soul. Also, since bathroom space's location, role, expressing emotions in the building is determined by the architects and interior designers. This article is intended for interior architects and designers to provide a more comprehensive, multi-angle combinations bathroom space, used in design and life, through innovative bathroom space designed to improve the quality of life in the future.

Theoretical significance of this study: collect upscale bathroom space design (in the top-grade residential and resort hotel) to summarize the rule and design methods to enrich the bathroom design information.

The practical value of this study: to provide design guidance for designers and guiding principles.

1.2 Basic Concepts

SPA-like bathroom, home SPA, wellness at home,

Fitness in bathroom, relaxing system

SPA-Like bathroom:

Instead of going to a spa every week, people would rather to have one at home, because that will save the time and spend some money and make our own bathroom and our personal SPA that is available any time of the day just for ourselves since after a long day at work, we deserve a relief, and make our bathroom as comforting as it could be, put big mirrors, a touch of candles, a Jacuzzi or a whirlpool bathtub and make it whatever that can make us feel comfortable.

1.3 Theoretical explanations (literature review)

In recent years, more attention have been paid to the concept of health and wellness, people eager to relax the mind and relieve stress. Bathroom space culture had the new tendency, sanitary ware culture idea namely "3R": Relax. Recharge. Restore. People pay more attention to health concept and wellness in every country. Therefore, the contemporary bathroom space is full of inspiration, innovation, comfort, pure place, like a haven without urban stress. "Home spa create top-grade emotional experience bathroom", "comfortable shower in holiday at home", "bathing, the art of relaxing and escape" "wellness and vacation at home ", "bathing, the art of escape and relaxation" and so on become the main development trends of bathroom space design. The bathroom space is becoming the core of the quality of hotel, creating special experience in bathroom space so as to lead the life style. At the same time, some of the upscale bathroom in top-grade resort also brings the concept of "slow life"¹ to wellness bathing space design. And there are some hotels began to claim against the internationalization, standardization of design, to the development of the concept of "customization", and take the bathroom design as a starting point, to rethink the important of personality requirements.

Comfortable SPA-Like Bathroom design makes people want to go home and dip themselves into their bathroom. They can make the bathtub near a big enlightening window, on the floor or dug to be floor level and surrounded by wood. Some bathroom can

¹ Slow life: Slow (S=Sustainable; L=Local; O=Organic; W=Wellness) ,Life(L=Learning; I=Inspiring; F=Fun; E=Experiences). This concept created by the founders of brand "Soneva". (They also created 2nd brand "Six senses", "Evason "and "Six Senses Spa" scattered around Asia, Mideast and Europe.)

have a touch of green to make people feel like they're in the garden, some bathtubs can be dipped into water to give the feeling of the sea or a pool. Bathroom design is developing: from convergence herd to multiple personality; from visual impact to spiritual experience; from extravagant show off to green environmental-friendly design; from separation the inside and outside to one integrated mass...Designers pay more attention to "personal spa", "nature's way", "no boundaries", "relaxing space", "tub stands alone in an open space overlooking a view"...

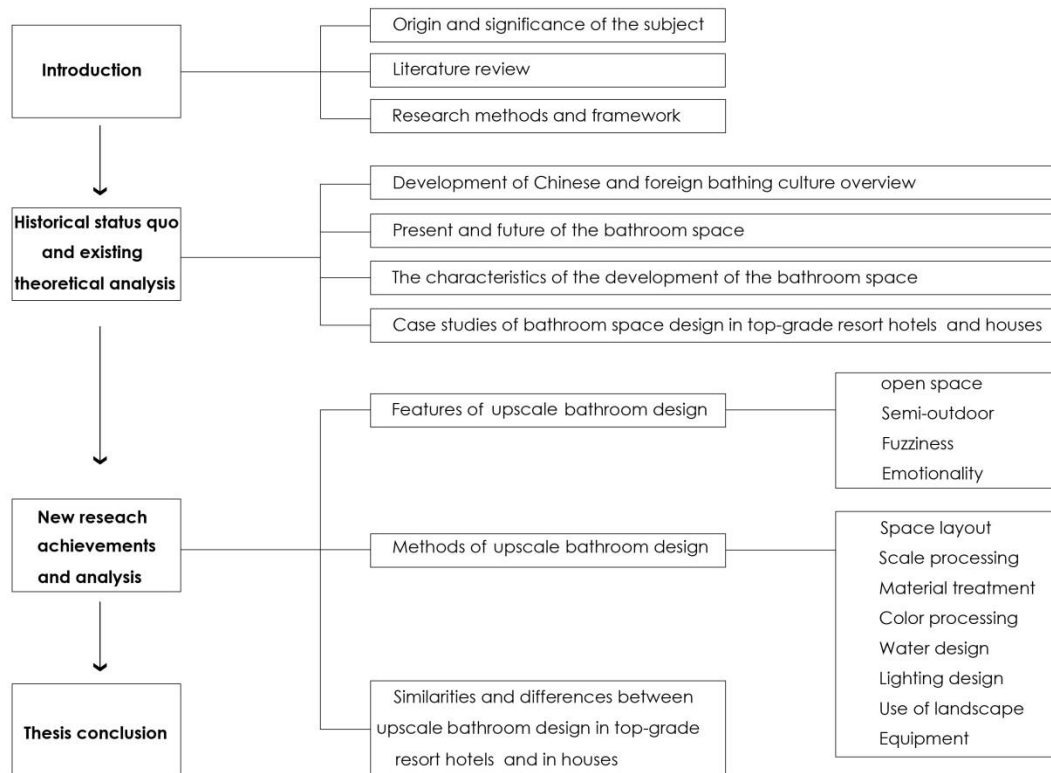
However, researches on contemporary bathroom design focus on the historical development of induction, foreign bathroom space compared or eco-technologies and trends presentation, human body engineering in bathroom design. The relevant academic papers are "The Bathroom Facilities Design of Aging Based upon Universal Design" "Research on contemporary bathroom products design" "Research on emotional design of bathroom products by emotional measurement" "Research on skin sense experience design in bathroom products" "Research on contemporary bathroom products design" and so on, monographs such as "Chinese bathing culture" "Bath. Water. Design". "Wellness at home" But these existing theories didn't from the architectural aspects to design, or from the level of space volume planning to arrange the bathroom. Upscale bathroom space design part is missing, therefore, this thesis aimed to summarize features and design methods of upscale bathroom design especially home spa bathroom space and trends.

The following is the case study list of author's surveys, research and collection.

酒店名称及设计方	卫浴空间	酒店名称及设计方	卫浴空间
Alila hotels & resoers 巴厘岛阿里拉度假酒店 设计方: 新加坡WOHA事务所		Waterhouse 水舍 设计方: 如恩设计研究室	
Casa de la Flora resort 美罗拉别墅度假村 设计方: VaS建筑事务所		Four seasons resort bora bora 大溪地波拉波拉四季酒店 设计方:	
Aetherea conceptSpa Aetherea概念水疗中心 设计方: Studio Bizzarro & Partners		ONSEN PAPAQA 台湾泰安观止温泉会馆 设计方: 台湾群林集团 郑唐瑛	
Garden Terrace Miyazaki resort and hotel 宫崎县花园露台酒店 设计方: 隈研吾		郑州艾美酒店 设计方: 如恩设计研究室	
Hotel Wiesergut 奥地利萨尔茨威尔斯格特酒店 设计方: Gogl Architekten		重庆百联精品 设计方:	
moonlight motel 台中天月人文休闲汽车旅馆 设计方: 郑唐皇		Casa M 设计方: Zaettastudio Architettura e Design	
南非POD Camps Bay Hotel 设计方:		Pillar House 设计方: Suzuko Yamada	
Bali-Ubud Village resort & Spa 设计方:		南非山顶别墅 设计方: Nicovan der Meulen Architects	
innhouse 隐舍 室内设计: Oval partnership		杭州九树公寓 设计方: 大卫·奇普菲尔德	
杭州西溪花间堂 设计方:		台湾璞园扬升君临 室内设计: 谭精忠	
昆明阳宗海柏联温泉酒店 设计方:		Flat For A Photographer 设计方: Alex Gasca, Hélène Silvy-Leligois	

Fig.1-1 case studies of upscale bathrooms in top-grade resorts and houses

1.4 The basic framework



Part 2 The evolution of bathroom space and the culture of bathing

2.1 Western culture and the evolution of bathroom space

2.1.1 Western culture and the evolution of bathroom space overview

In the past few thousand years, the importance of bathing in Western society experienced repeated changes. Bathing history has evolved accompanied with the development of public and private bath.

From 4500 BC Mesopotamian clay tub shower , BC 1800 Palace of Knossos on the island of Crete in the private bathroom , to the 8th century BC Greeks bathing culture developed slowly , to the 4th century AD , the Roman bath will become a simple society social needs, from an ordinary bath to the later official Cary baths of Caracalla . Roman bath has reached its peak, has opened up a new chapter in human bathing, but also for bathing culture has injected new content.

Medieval becoming public bathroom tiles of the land, the church began to issue injunctions , coupled with the prevalence of plague and syphilis , the French in the 15th century closed the public bathrooms , Orleans , Germany have also closed the public bathrooms . 16th century in Europe, public bathing was blocked. Since then nearly two centuries, we seem to have forgotten "shower of music."

17th century, the British North Yorkshire Scarborough emergence of the world's oldest beach. 18th century, the British considered beneficial to the body to the seaside resort, the rise of the seaside resort. A century later, many parts of the United Kingdom from the beach repair, nursing homes. Early 19th century, Paris re- opened the bathroom, on the river Seine super luxury ship, the banks , the most beautiful bathroom that can provide all the traditional services, there are Russian steam bath , smoked bathroom, shower room, shower room below water , combination shower room, sanitary bathrooms , hair removal chamber and so on. Public bathrooms awaken people's fascination with water, and soon it has been found a new fun - pool bath, then, Spa, Thalasso, sun bath, sand bath has emerged. 19th century to the 20th century, 30 years ago, the water enters the home of the rich, private bath began to develop clean public bathrooms turn into public facilities. Mid-19th century, the British workers first appeared laundry area and bath

combined with a public bathroom.

1870s Germany had a public shower, France entered the era of public health, body gradually lost entertainment concepts. Then, with a private bath of Western countries, public bathrooms gradually withdraw from the stage of history.

Bath was originally human needs that people have such a requirement and must be met. When they are no longer able to be like Renoir and Cezanne -like in nature Bathing bath, then only as Degas and Bonnard's wife, like Bathing in a bath tub. Bath civilization or a private bathroom and sanitary equipment technology development, which are based on such human needs; and all civilizations, are rooted in human nature. For thousands of years, people enjoy the fun of water, but in the West until the 20th century, before the birth of the modern bathroom.

2.1.2 Time line of western culture and the evolution of bathroom space

	Images	attitude on bathing	bath tube	shower	Steam Bath	material	technology impact	case study
Ancient Greece		Scum and bath combination free mobility & spirit release	 1700AD Ancient Greece Painted hand clay tub.			numerous orientation facilities, marble bathrooms, ceramic bath	Construction technology mature —pottery techniques	
Roman period		Roman bath always showing off luxury, reflecting the pleasure with water				applications of metal has and high-end lavatory robes, high end luxury bathrooms	Construction technology further developed —metal casting crafts	 The baths of Caracalla
Middle Ages		care more about entertainment while bathing			 Medieval steam bath coffee preparation			
Renaissance period			original bathtub heating furnace Wooden tub, from the 14th century, herbal soak in the water, that the initial drug bath. The left is a ceramic pot for furnace, namely heating equipment, and put on red charcoal, which was put into the water.	 Medieval shower facility used for convenience	 Dry steam, east Germany			
17—19th centuries	 Health education through bathing		1880 new label You don't have to install heating equipment 1889 Crode wire tub	 1889 Crode wire tub 1889 Crode wire tub	 Original shower facilities	 Turkish Steam Bath	to bath products, water-guiding facilities	traditional metal manufacturing crafts mature
New Century			 1920s factory clay bathtub	 1910 public shower	 1920 public shower renewable nozzle			

Tab.2-1 Time line of Western bathing culture

2.1.3 Case study of western bathroom— The baths of Caracalla

The baths of Caracalla

The history of the site and the urban context:

The Thermae Antoniniana, one of the largest and best preserved thermal complexes of antiquity, was entirely built by the Emperor Caracalla since AD 212. The bath complex stands on a vast rectangular platform, measuring 1076 by 1059 feet, that was partially dug out of the side of the Aventine hill.

The passageways—the underground levels—the water system:

The rectangular plan is typical of the great imperial baths. The central thermal

building itself was oriented in N-E/S-W, for the exploitation of the sunlight.

Following the traditional plan of Roman baths, the principal rooms were lined up on the short central axis of the bath block in the ritual order in which the Romans would use them. First was the large swimming pool open to the sky. This was followed by the immense groin-vaulted fridarium, or cold bath area. Next on axis was the tepidarium, whose waters were slightly warm, and finally came the circular domed caldarium, or hot room, that was nearly as large as the Pantheon. Arranged to either side of this file of rooms were offices, service rooms, and exercise courts. Surrounding the bathing block was a garden, or xystus, that included fountains, a stadium with seating for spectators, and subsidiary structures such as libraries, meeting halls, and shops.

The decorations and works of art:

The baths of Caracalla were adorned with columns, precious marble slabs on the vaults, stucco paintings and hundreds of statues and colossal sculptures.

Picture which presents the time it was

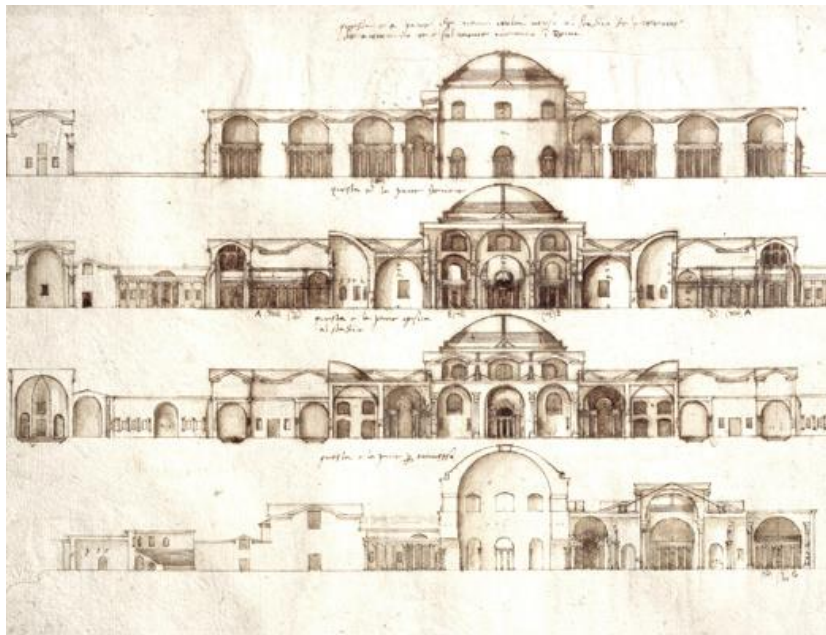


Fig.2-1 section of the baths of Caracalla

Photo which shows the time it appears now



Fig.2-2 Current situation of the baths of Caracalla

Restoration:

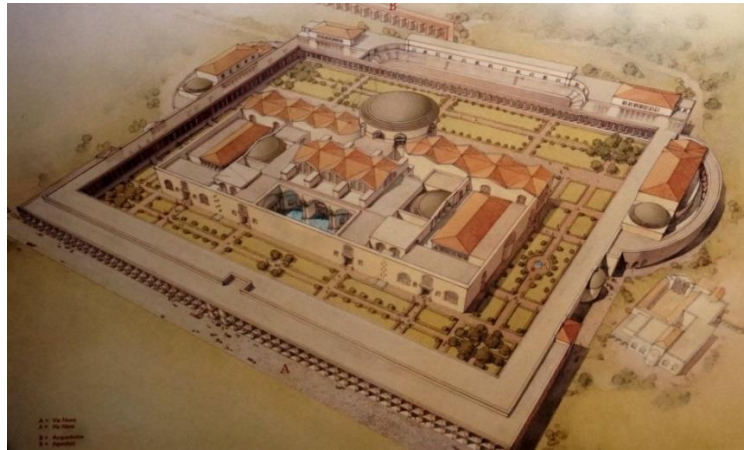


Fig.2-3 Bird-eye perspective of the baths of Caracalla-1

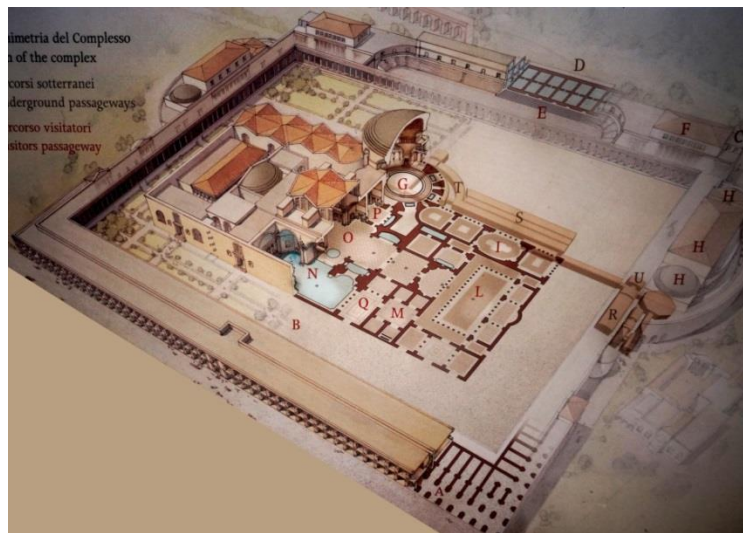


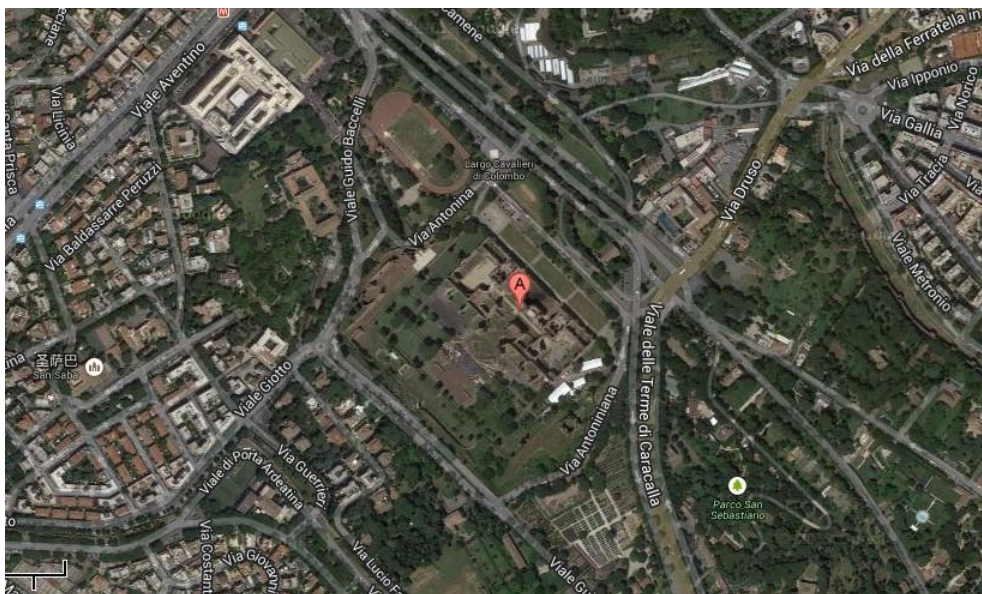
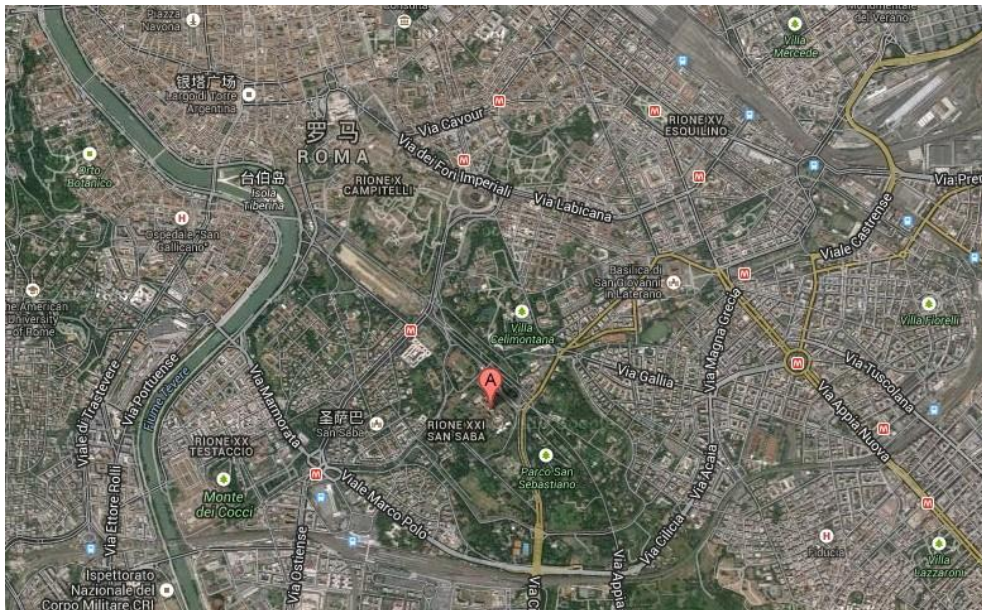
Fig.2-4 Bird-eye perspective of the baths of Caracalla-2



Fig.2-5 Section perspective of the baths of Caracalla

a. Location:

Roma, Italy



b. Plan layout

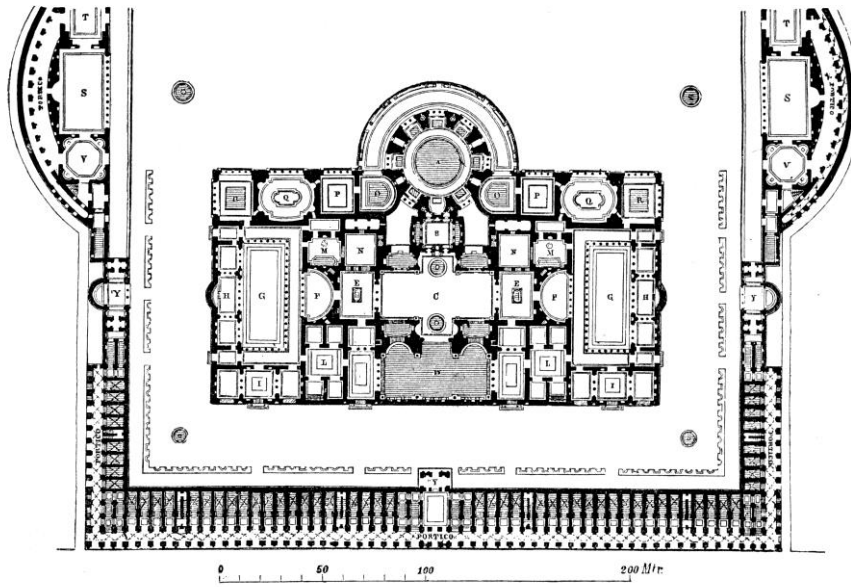


Fig.2-6 Plan of the baths of Caracalla

c. Section layout

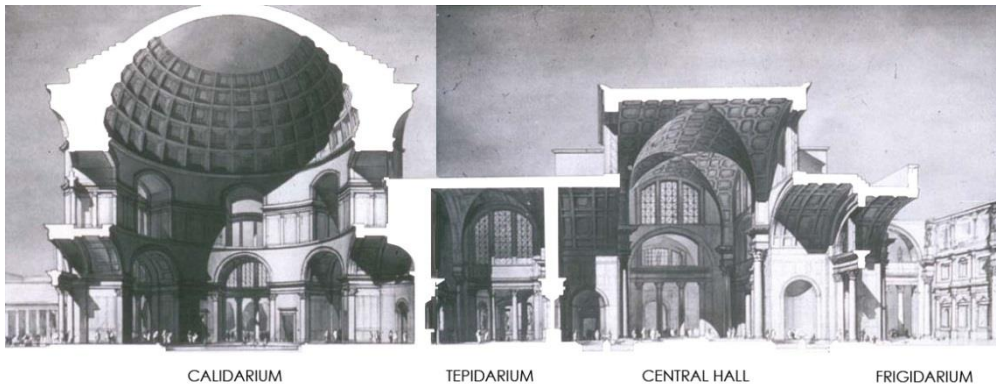


Fig.2-7 Section layout of the baths of Caracalla

d. Space layout:

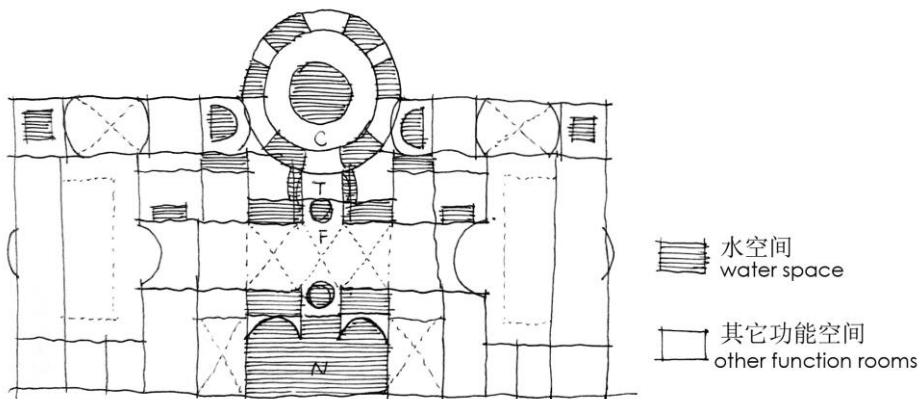


Fig.2-8Space layout of the baths of Caracalla

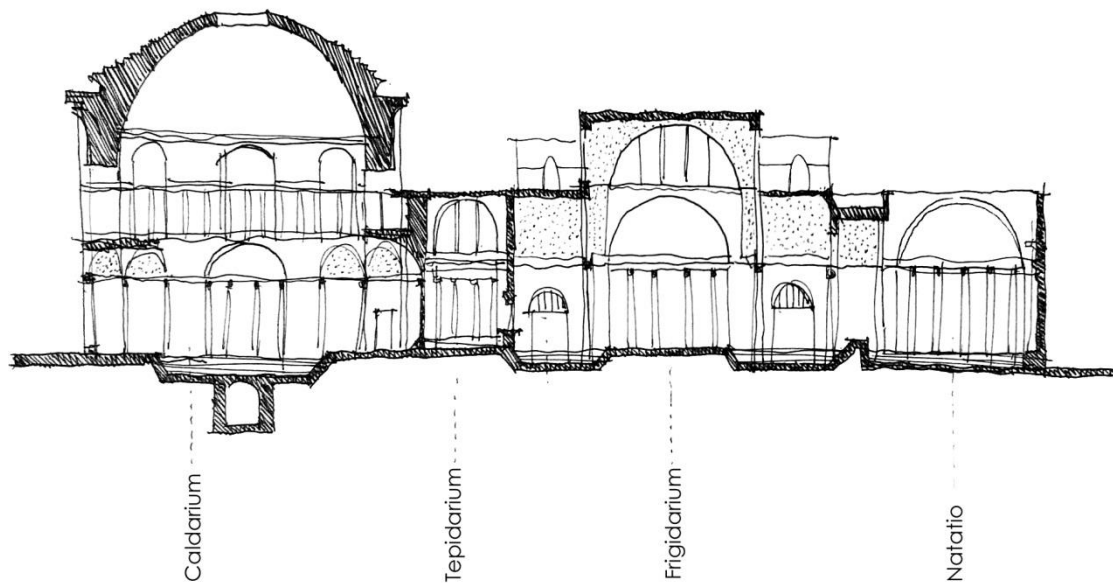


Fig.2-9 Section of the baths of Caracalla

e. Scale processing:

Creative interaction between different water temperature and changes of bathing space scaling;

Communion of ritual bathing and entertainment is reiki.

f. Material treatment:

Thick concrete masonry was used to build massive walls to support various roofing structures, some of them of daring design, that covered rooms of many different shapes and sizes. Domes, half-domes, barrel vaults, and groin vaults, also constructed of concrete, created dynamic spaces arranged in artful sequences.

The rough concrete construction was not visible to the bathers; lavish ornamentation concealed it. Mosaics on the floors, colorful marble veneers on the walls, gilded stucco and glass mosaics on the ceilings, and a profusion of columns in a variety of colored marbles created a sumptuous interior. Added to this were numerous statues by the most famous sculptors of the day and imaginative water displays.

g. Color processing:

colorful marble

h. Water design:

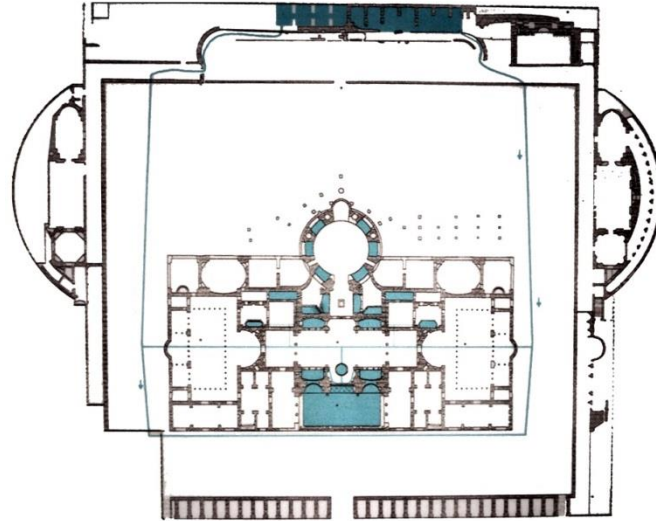


Fig.2-10 Water space analysis of the baths of Caracalla

Water was brought to the bathhouse by a new branch of the Aqua Marcia aqueduct, called Aqua Nova Antoniniana: on the southern side of the Baths the reservoirs—partially preserved—guaranteed the necessary water supply. It brought water to sixty-four cisterns from which it was distributed via lead pipes to the large swimming pool (natatio), the cold-water bath (frigidaria), the hot bath (caldarium), numerous fountains, and the latrines.

i. Lighting design:

The swimming pool was roofless with bronze mirrors mounted overhead to direct sunlight into the pool area.

j. Use of landscape:

Expanses of garden with beautiful landscape, green space around the main building, make full use of nature.

k. Equipment:

l. Synthesis:

Key solution: This layout is clever because its spirit of making full use of water to create a whole relaxing space is so inspired, which guide later generations study to design and enjoy different way of playing with water.

Key concept: The Caracalla bath complex of buildings was more a leisure centre than just a series of baths. It was enormous, covering about fifty acres that included swimming pools, exercise yards, a stadium, steam rooms, libraries, meeting rooms, fountains, and other amenities—all enclosed in formal gardens.

2.2 Mideast culture and the evolution of bathroom space

2.2.1 Mideast culture and the evolution of bathroom space overview

Bath houses have played an important ritual role in Islam since the earliest times, as cleanliness is an essential prerequisite of religious activities. “Minor ablutions” must be performed before each of the five daily prayers, and “major ablutions” are de rigueur after disease, sexual intercourse, and other defilements. The Hammam thus came to serve a pivotal role in the daily lives of Iranian Muslims. As both men and women gathered there daily (at separate times), it became a space of social gathering as well. Services rendered there might also include massages and haircuts, including full-body depilation for women to comply with Islamic hygienic practice.

2.2.2 Time line of Mideast culture and the evolution of bathroom space

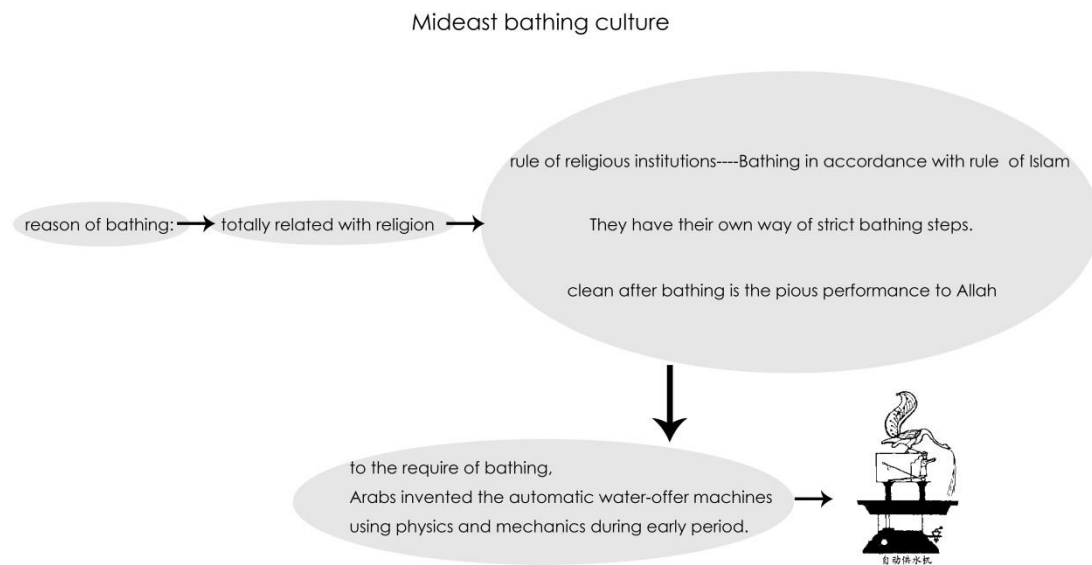


Fig.2-11 Diagram of Mid-East bathing culture

2.2.3 Case study of Mideast bathroom--- Sultan Amir Ahmad Bathhouse

Sultan Amir Ahmad Bathhouse

(Persian: احمد امير سيدلطان حمام , Hammam-e Sultan Amir Ahmad), also known as the Qasemi Bathhouse, is a traditional Iranian public bathhouse in Kashan, Iran. It was constructed in 16th century, during the Safavid era; however, the bathhouse was damaged in 1778 as a result of an earthquake and was renovated during the Qajar era. The bathhouse is named after Imamzadeh Sultan Amir Ahmad, whose mausoleum is nearby.

The Sultan Amir Ahmad Bathhouse has an area of approximately 1,000 square meters. It consists of two main parts, the dressing hall (Sarbineh) and the hot bathing hall (Garmkhaneh). Sarbineh is past the main entrance. It is in the shape of a large octagonal hall, which has an octagonal pool in the middle, surrounded by 8 pillars separating its outer sitting area. At the time of construction of the Bathhouse, its intended use was not just to serve cleanliness purposes but rather was a place for rest, gatherings, discussions and even prayers. As a result there are benches surrounding the perimeter of Sarbineh elevated by a few steps above the central pool where visitors can lounge. Garmkhaneh is the main washing area. It consists of hot and cold pools and sitting areas. There are four pillars in Garmkhaneh, which create smaller private bathing rooms all around as well as the entrance to the main bathing room (Khazineh).

Picture which presents the time it was in 1840



Fig.2-12 Interior of Sultan Amir Ahmad Bathhouse in1840

Photo which shows the time it appears now

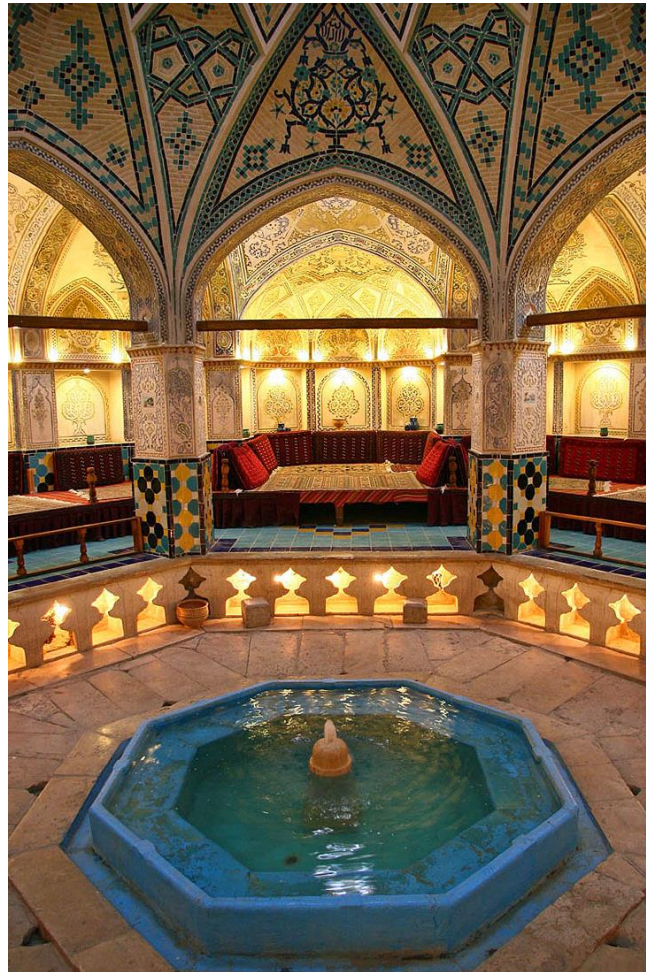


Fig.2-13 Interior of Sultan Amir Ahmad Bathhouse now

a. Location:

Kashan, Iran



b. Plan layout

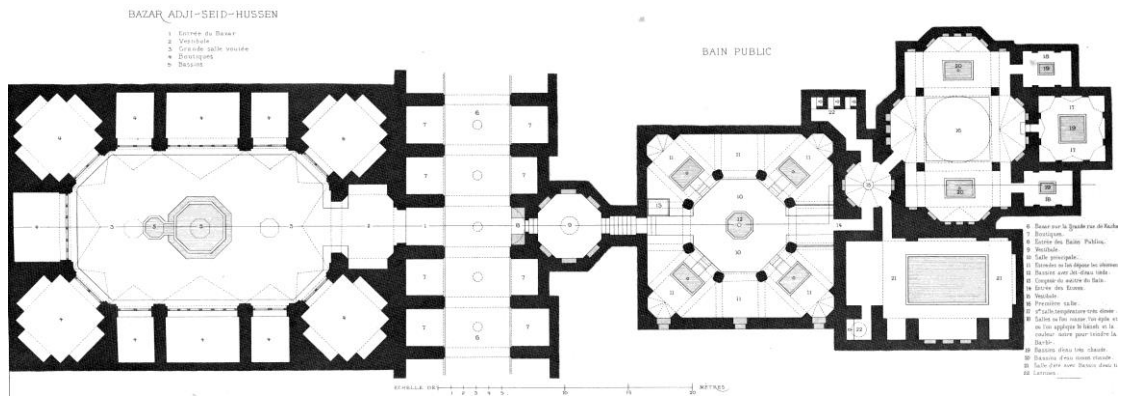


Fig.2-14 Plan of Sultan Amir Ahmad Bathhouse

c. Section layout

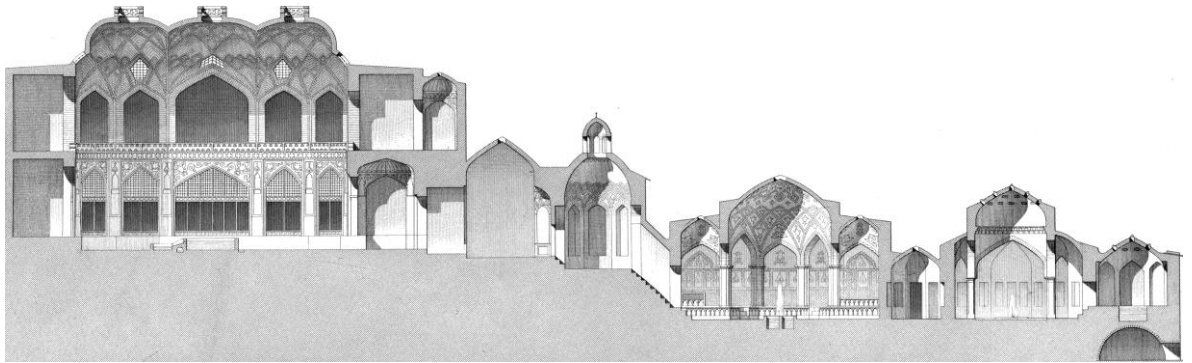


Fig.2-15 Section of Sultan Amir Ahmad Bathhouse

d. Space layout:

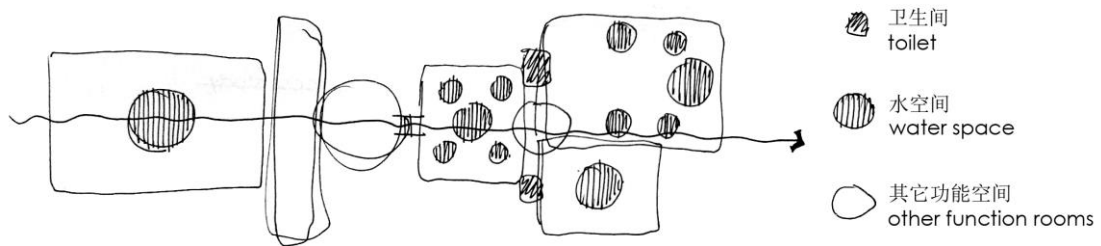


Fig.2-16 Space layout analysis of Sultan Amir Ahmad Bathhouse

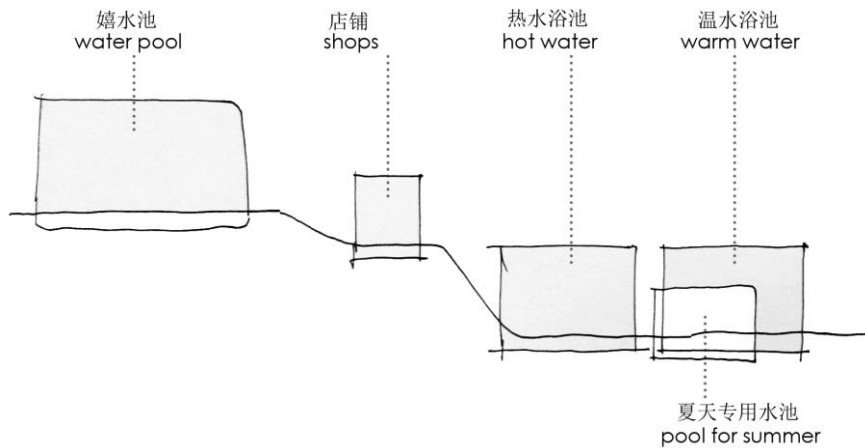


Fig.2-17 Section layout of Sultan Amir Ahmad Bathhouse

e. Scale processing:

Divine, strong sense sequence, unification symmetry

f. Material treatment:

The interior of the bathhouse is decorated with turquoise and gold tilework, plasterwork, brickwork as well as artistic paintings. The interior and the roofs are decorated with glazed turquoise tiles and paintings with floral patterns.

g. Color processing:

Golden color, traditional plasterwork color and brickwork color

h. Water design:

Water is used in every unit; water pool is surrounded by other Indoor space.

i. Lighting design:

The roof of the bathhouse is made of multiple domes that contain convex glasses to provide sufficient lighting to the bathhouse while concealing it from the outside.

j. Use of landscape:

Independent steam space, no natural landscape extends to indoor

k. Equipment

l. Synthesis:

Key solution: This layout is clever because its intended use was not just to serve cleanliness purposes but rather was a place for rest, gatherings, discussions and even prayers.

Key concept: Multilevel space for multi-functions bathhouse.

2.3 Eastern culture and the evolution of bathroom space

2.3.1 Eastern culture and the evolution of bathroom space overview

——take Chinese and Japanese for example

A. Chinese bathing culture overview:

Chinese people have always regarded as a major event in a bath, shower and North Korea since ancient times, fasting bath to worship God argument.

Waste away in that ancient, primitive instinct for survival, and often jump into the cool water, soaked in water for cooling the body, which is probably the original bathed. As society develops, people gradually develop bathing habits, not later than Shang and Zhou dynasties; there have been used for bathing utensils. To the Western Zhou Dynasty, bathing rituals gradually formed customization. Not only be seen as simply the bath clean body Nude, skin health, and as a grand ceremonial first played. Qin and Han dynasties, the whole society have been formed of bathing practices. Wei is a user-friendly unassuming era; different people have different attitudes towards bathing, one bad bath, one bath into addiction, and go to the extreme. To the Tang Dynasty, Spa prevailed, Spa Therapy health effects of being taken seriously. However, with the decline of the Tang Dynasty, Li Shan, etc. spas are becoming increasingly barren. The Spa spread to Japan, but as a health spa bath and cultural heritage has been carried forward. Around the time of the Song, as urban development and commercial economic prosperity, the city appeared in public bathhouse, and general people building a bathroom, shower even more popular. Was very particular about personal hygiene, and to bathing as a kind of enjoyment, in order to maintain physical and mental health. Ming and Qing Dynasties, bath really digs into people's lives. With the further development of the city, public sectors and grew a variety of service industries has become more prosperous. People at that time more attention than ever for bathing , people in Ming Dynasties had the overseer of " bath body" and "reward antique ", " obscene names incense ", " recite famous" par, as a spirit of enjoyment . Qing Dynasty stone into gold put " shave , take ears, body bath , pedicure " as a personal four joy that only allow their bodies refreshing , is a kind of Blessed

Since the early days people mainly busy working, no time to enjoy the spirit of the pursuit of a higher realm, then simply shampoo bath bathing body. After the reforms, the country wide open, people accept incoming new things, an increase in leisure time so that people start thinking about the meaning of life and quality of leisure. Scientific use of leisure time is a life energy storage and value added, including people's own mental and physical timely adjustment. Leisure providing people with a multi-dimensional space-time, can be expanded in many ways the content and meaning of life, to meet their spiritual needs. While demand in the market diversification, personalized and fashion driven, resulting in a bath building. Where people can bathe and conduct other activities, such as recreation,

culture, fitness, rest, exchanges, etc., into a multi-functional sports and recreation bathhouse building. Early 20th century is the era of indoor bathrooms, especially in densely populated areas, as a preventive health problem since suffering disease, bathroom in the room is set up by the government health department for enforcement. Then for a long period of time, residential building in the bathrooms are summarized in the secondary space, the majority of non- human compact bathroom design. From the late 1980s, after the design innovations were introduced from the kitchen, a modern bathroom design revolution began. Bathrooms become an open, creative place.

B Japanese bathing culture overview:

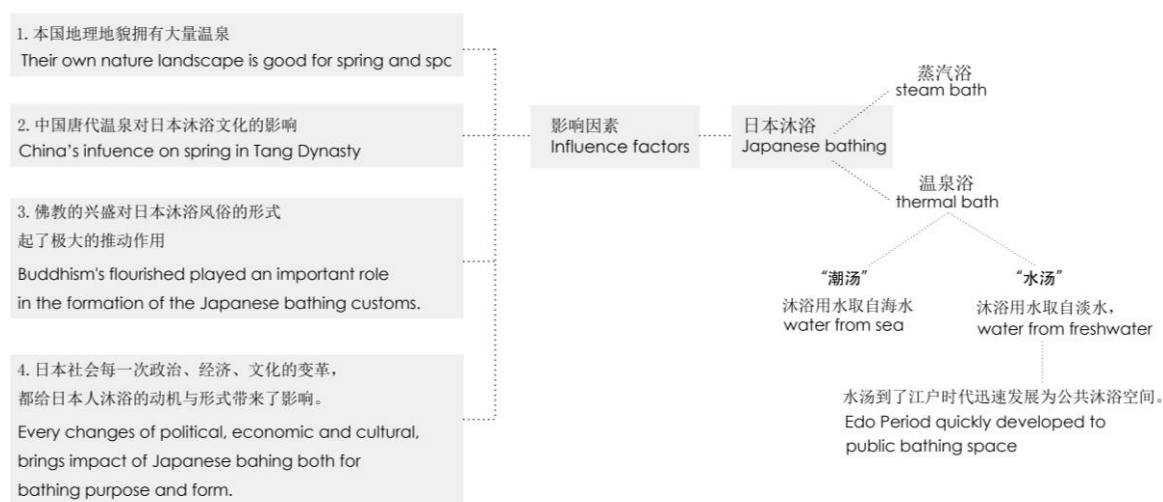


Fig.2-18 Japanese bathing culture diagram

Japanese bathing culture has a long history with its own features, historic hot springs can be traced back thousands of years ago, people inspired by the deer, bears, apes and other animals when they were healing in hot springs, and then Japanese people gradually began to enjoy hot springs. To the Nara period, due to the introduction of Buddhism around the construction of the temple, the monks' spa bath on the development has played a significant role in promoting the development of emerging new spa.

The same as hot springs, Japan's public baths also has a long historic; which was appear in the ancient temple of "Yutang" and "big soup house." at the early time. The beginning of the 7th century, with the Buddhist culture brought into Japan, Todaiji and Hokkeji opened the monks bathed the creation of "Yutang", and opened the "big house soup" to let the believers bathing there, this is called "Shi bath." The late Heian period around the 12th century began to appear in Kyoto are the few for-profit "sento" which need to pay for public bathrooms. To the 13 and 14 century, the trend of "shi bath" is more prosperous, some of the nobles or rich people entertained with neighbors home in the bath, this custom has been called "feng lv", and bathhouse also called "houses of feng lv". When Edo period came in 17th century, public Yutang rapidly growing popularity, practical

and entertaining “Qian tang” culture substitute "Shi bath", which not only meet the needs of bathing but also become an important social and entertainment places. Although the number of modern Japanese “Qian tang” are not so much as before, but public bathrooms still comes everywhere.

The Japanese have a naturally slim, keen sensitivity in human and natural understanding, communication; man is part of nature, and feel like getting new life in the nature. Japanese-style baths structural simplicity exudes pine aroma. In mountain hot springs, the water floating wooden tray placed a good warm sake and dishes, you can soak the side edge discretion, relieve fatigue, relax frayed nerves, the taste of life, emphasizes the harmony between man and nature. Almost all the people believe in Japanese Shinto, so the bath with the Shinto faith also, like the Japanese aesthetic sense also originated in nature worship, which made out of internal penetration unpretentious beauty. So the Japanese emphasis on simplicity is the beauty of simplicity, nothing to do with wealth.

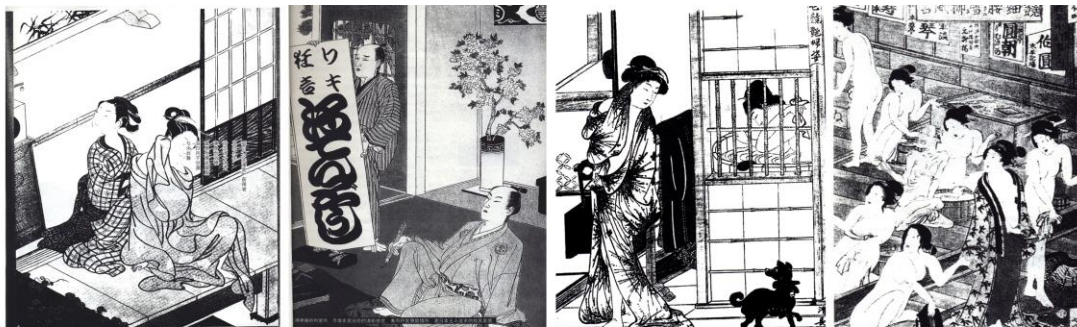
2. 3. 2 Time line of eastern culture and the evolution of bathroom space

Take Chinese bathing evolution time line for example:

	attitude on bathing	images	soaking bath	medicine bath	dry bathing	impact by Taoism	impact by Buddhism	other impact	case study
Remark	Image of Chinese bathing can be found by Chinese characters					Taoism: Water Ritual: Exorcism, care about wellness	The prevalence of Buddhism: Bathing becomes a belief		
The primitive people	Survival instinct. Body soaking in water for cooling								
Shang and Zhou Dynasties	bathing tools and appliance appeared								
Western Zhou period	bathing etiquette formed. Bathing is not only seen as body-cleaning, skin healthing, but also regarded as a grand etiquette first played.								
The Spring and Autumn Period	Unique Chinese medicine bathing emerged								
Qin - Han dynasties	Bathing custom has been formed through the whole society. Human Nature era, different people deal with different					Ideas on the inner bath: Taoism influenced the bathing culture in Heaven realm aspects			
The period of war, in and Southern and Northern Dynasties	One is not like bathing, one is bathed addictively. Spring prevalence, the effect of therapy and wellness of bathing have been taken seriously.								
Tang Dynasty	People are about hygiene, and enjoy bathing, in order to maintain physical and mental health.						Qibao: From the prevalence of Buddhism: bathing becomes a belief		spa spread to Japan as a health spa bath and heritage cultural has been carried forward.
Song and Yuan Dynasties	Bathing went depth into people's lives. Ming Dynasty: bathing is considered a part of enjoyment. Qing Dynasty: consider bathing brings refreshing bodies, which is a kind of true blessing.							Development of cities: Commercial economic prosperity, Public bathhouse appeared in cities, and people usually build a bathroom in their rooms, bathing even more popular.	
Ming and Qing Dynasties								With the further development of the city, public sectors grew. Services industry has become more prosperous.	
Early days of foundation	people are mainly busy with living, and there's no time to enjoy the pursuit of higher spiritual realm. Bathing is simple for washing hair and body.								

Tab.2-2 Time line of Chinese bathing culture

Take Japanese bathing evolution time line for example:



1. 远古时期 Ancient period	远古的狩猎时代，人们为了清洁，在海边或河畔清洗自己的身体。 People live beside sea,lake for cleaning their bodies.
2. 农耕时期 The farming age	进入农耕时代以后，在河畔、湖边以及泉水旁逐渐形成许多村落。这一时期沐浴已经不是一种偶然现象，而是人们生活中不可缺少的部分。 Bathing is an indispensable part of life.
3. 飞鸟时代 Asuka period	佛教传入日本之后，日本的浴场主要集中在寺院中。人们纷纷涌入寺院洗浴。 Buddhism was introduced, each monastery in a bathroom.
4. 镰仓时代 Kamakura period	进入镰仓时代以后，民间的浴场慢慢地成为一种具有游兴意味的场所。 private baths became care about space for entertainment.
5. 南北朝时期 Northern and Southern Dynasty	南北朝时代到室町时代，随着都市生活的发展，洗浴也慢慢地从佛教活动向娱乐、卫生方向发展。除了寺院的浴堂和大汤池之外，由都市中地位低下的庶民经营的浴室也发展起来。 with the development of urban life, bathing slowly change from Buddhist activities to health and entertainment.
6. 江户时代 Edo period	进入江户时代以后，都市中的公共浴室数量骤增，此时的浴室，实行男女同浴。 The number of the city's public bathrooms increased rapidly, At the same time, man and women bathing together.
7. 明治维新时期 Meiji Restoration	明治维新以后，实行男女浴池完全分离，并对浴室构造进行改造，使其更通风更卫生。 Baths for men and women completely separate.
8. 第二次世界大战后 After the 2nd world war	第二次世界大战战败后，日本通过经济高速发展而成为发达国家，家庭拥有浴室的数量增加了。 Japan, through rapid economic development, become a developed country, the number of family bathroom rose.
9. 现代工业化之后 After the modern industrialization	沐浴成了娱乐及放松的手段 Bathing is for entertainment and relaxing.

Tab.2-3 Time line of Japanese bathing culture

2.3.3 Case study of eastern bathroom---The Hua Qing Pool

Huaqing pool

Lishan Huaqing Pool is a famous bathing place in Tang Dynasty, and Chang'an City is 30 km away from west Li Shan, where has beautiful scenery, and hot springs at the foot of the mountain, perennial water temperature 43 degrees Celsius, contains a variety of minerals and organic matter, which is beneficial to the body after bathing. This place was once historically built a palace as early as the Western Zhou dynasty, but now the buildings are recovered according to the palace of Tang dynasty. What never changed is the underlying hot spring which has been gushing years over years. People and the natural environment Heaven, obsessed with health spa. (Its bathing space includes: Lotus bathing pool, Begonia bathing pool, gravy bathing pool, and stars bathing pool, Prince bathing pool, Shaoyang bathing pool, still fresh bathing pool, Yichun bathing pool, long bathing pool... And the royal bathing pools, lotus bathing pool, Begonia bathing pool have bath seats inside, which the direction facing south.)

Inside the main gate of Huaqing Pool, you come first to the Nine-Dragon Lake by which stands a white marble statue of Yang Guifei, who is considered to be one of the four beauties in all of Chinese history. Mirrored in the lake, you will see a surrounding complex of buildings interspersed with willows and rocks, including Frost Flying Hall to the north. The magnificent Frost Flying Hall used to be the bedroom of Emperor Xuanzong and Yang Guifei. When winter comes, the steam of hot spring in cold wind will congeal into countless frosted butterflies, which is thought how the name originated.

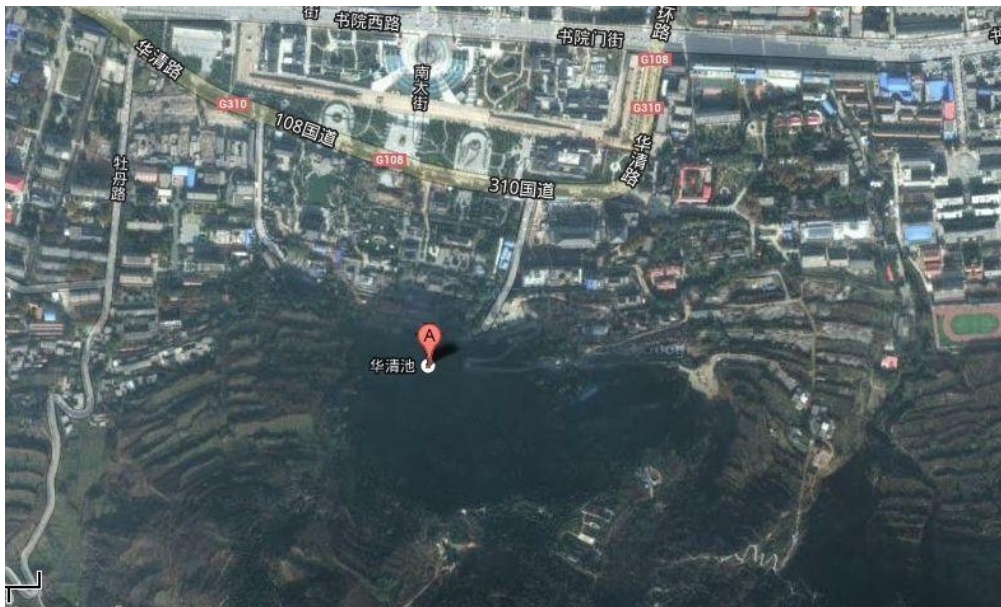
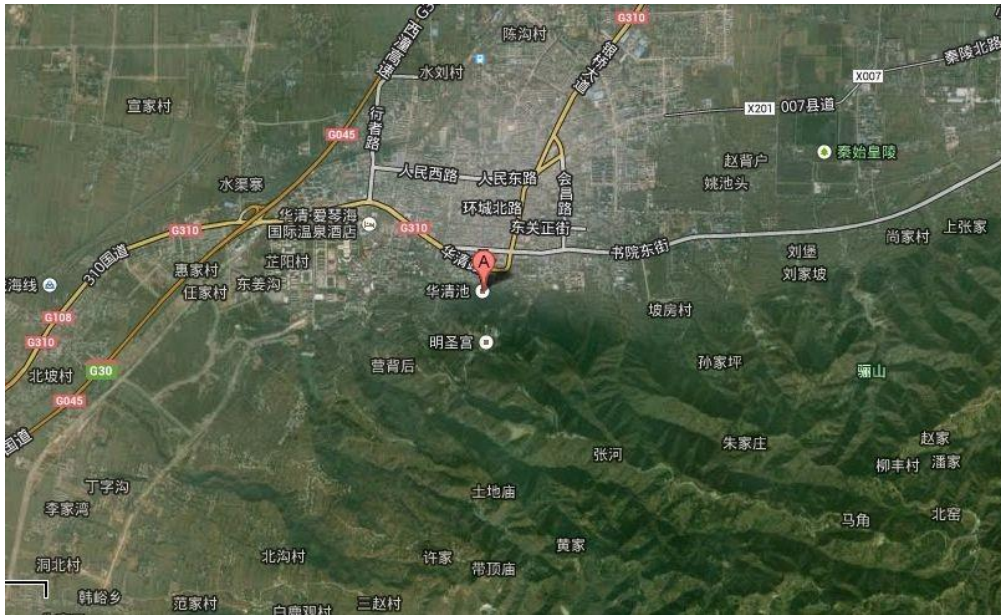
Walking southwards through the Dragon Marble Boat and several pavilions, you will find the site of the Lotus Pool and the Begonia Pool where the Emperor Xuanzong and Yang Guifei bathed. They are the only ones of their kinds discovered in China, along with three other pools that is for various high officials bath.



Fig.2-19 Huaqing Pool in Tang dynasty

a. Location:

Xian, China



b. Plan layout

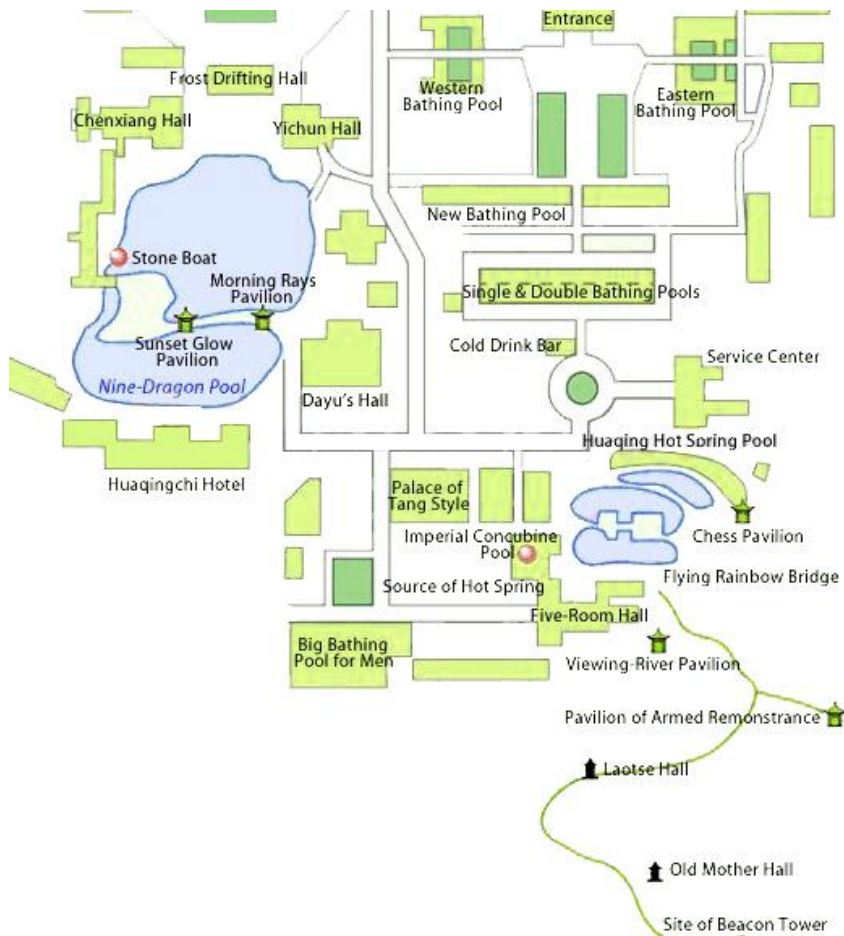


Fig.2-20 Space layout of Huaqing Pool in dynasty

f. section layout:

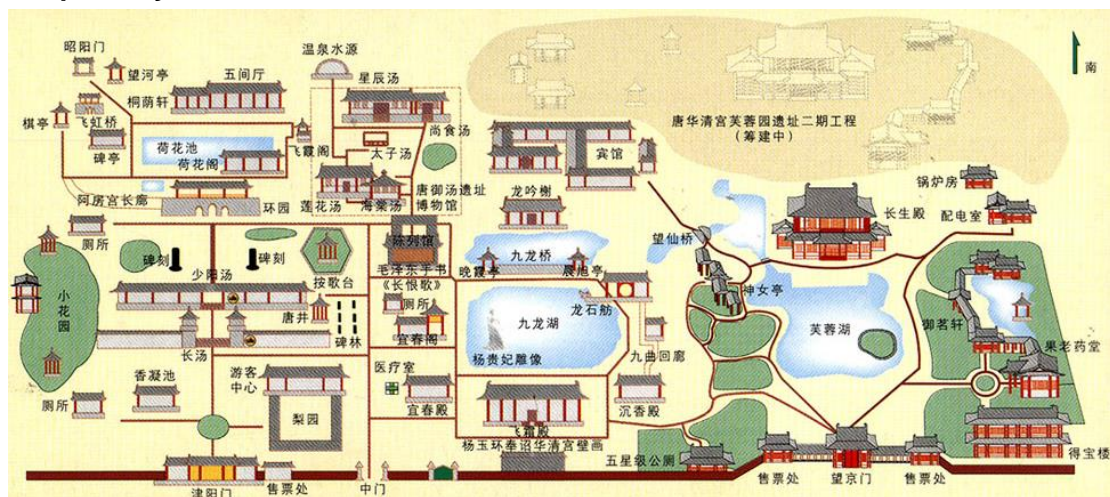


Fig.2-21a Haitang Pool in Ha Qing Pool



Fig.2-21b Lianhua Pool in Ha Qing Pool

d. Space layout:



e. Scale processing:

Scattered all the bathing pools around the royal park.

f. Material treatment:

white marble base

g. Color processing:

Light grey, white marble color

h. Water design:

Connect nature water without door bathing pool to a whole relaxing landscape system.

i. Lighting design:

Mainly sunlight

j. Use of landscape:

Strong relationship with landscape, much of the pools are in the open air link with nature.

k. Equipment

I. Synthesis:

Key solution: Due to the influence of religion Buddhism, Taoism, etc., focusing on the inner bathing and health, reflecting a perception and enjoyment of human survival. This inner bath is bathed in a shower of ideas based on the implementation of the water bath to remove dirt physical phenomena to imagine water bath inner thoughts, as if the clear flowing from the heart, like perfume. This integration of bathing space and natural landscape, the bodily ideas that clear your mind and health are both worth learning.

Key concept: Compared to cleaning and hygiene bath, ancient Chinese people consider bathing of the best means of self-seeking, the taste of life, relax the mind and mood while soaking in the open-air bathing pool and hot spring. Those inspire the future bathroom design to create sense of spiritual mood to enjoy.

2.4 Compare of Western, Mideast and Eastern bathing culture:

Water is a gift by the nature, which is given a different meaning in the sacred world of different cultures.

Western bathing culture:

Huge public luxury baptism space, bathing is a social activities of entertainment and leisure.

Mid-east bathing culture:

Quiet and elegant divine nature bathing space, bathing is a symbol of pious to Allah.

Eastern bathing culture:

Bathing is the interactive experience between human and nature.

comparation	Western	Mideast	Eastern
The background of bathing culture	Business culture pursuit of "the rich,strong, dynamic and forward"focusing on the expansion and conquest of space.	Under the influence of religion and culture "clean, quiet, sincere,true", pay attention to the strict procedures and inner cleaning bath.	Self-sufficient farming cultures living pursuit of "security,foot,static, fixed"and an extension of time.
	open,development, bathing culture	Private, religious bathing culture.	Naturally, static, bathing,culture
Awareness of life	"Sex"concerns,enjoyment, clean,emphasis the entire process of bathing.	To clean body and soul, about custom, etiquette, beliefs, religious and piety.	Etiquette,physical fitness therapy,clear skin.Focus on the results of symbolic.
	the development of water pipes and guide equipment, bath appliance industry thrive.	Influenced by religion, bath has been one of life indispensable procedure.	Traditional Chinese medicine bath
Behavior	Bathing and "soaking" combined dynamic bathe.	Take a shower, in order to avoid the use of dirty water flowing through the body.	mainly "soaking",static way of bathing
	Develop versatile and multi-forms bathing appliances.	In order to shower,they invent automatic water supply machine.	Bathing utensils are mainly pots and barrel.
Behavior environment	Luxurious and fixed	Ceremony, clean bath environment.	Shabby and temporary bathing environment.
	Bath formed an earlier fixed space.	Due to the religious needs, formed a relatively stable bath space.	No separate bathing space can be formed.
Utensil	Stone,ceramic,metal	Wood, stone, metal	Wood is the primary raw material.
	Industrialization cold feeling,difficult to maneuver.	simple and easy.	Warm,natural feeling single shape.

Tab.2-4 Comparison of Western and Eastern bathing culture

Part2 summary:

This chapter bathroom space is to explore the relationship between the development of the times and people's bathing cultures from historical aspect. Since ancient times it has introduced people to enjoy nature in entertainment bathing process. Intended as a people to relax themselves a place in the interpretation of the bathroom space, this should be sunny like outdoor garden, creative like patio spce, as comfortable as resort pool... As the "European Cultural History bath" mentioned in the book: "bathing cultural development has undergone about two thousand years, and its features are: It is not progress, but regress. Romans bathed Superior Deluxe, and subsequent years. compared with that period, now it seems like turns out to be the darkest Middle Ages --- and this Middle Ages has been extended to the new era. "...

Part 3 Contemporary trends of home spa



Fig.3-1 Diagram of upscale bathroom function concept

Inspired by the spas of ancient times, people looking for a bathing space with a soft and harmonious design. The bathroom is the place in the home in which we unclasp ourselves and become exactly and simply ourselves in the choice we make, the emotions we experience, the style we express. This is why people explore the most advanced frontiers of personalization to create objects that are not simple products but furniture and life-style projects for the bathroom. Bathtubs and cubicles in which marble wood and tempered glass take on a new appearance and transmit unique sensations.

Bathroom developed to home spa for deeper relaxation and fuller enjoyment of the new wellness with water. Water brings people pleasure, energy, life force, to let they go. Create the space like a beach at home; feel like on holiday, start a new day by soaking in energy and well-being, welcome a new way of conceiving, furnishing, and living in the bathroom. Begin a personal path of growth in complete freedom: from the simple appeal of the basic solutions to the greatest and most absolute prestige...

3.1 The definition of "upscale"—home spa

The concept of bathroom has changed and is now seen above all as a space that communicates dynamically with other rooms creating a feast of water and sociality that is both intimate and multi-functional.

1. Bathroom space:

It is not a bathroom that only meets the functional requirements of toilet; it is the bathroom area designed as an architectural space layout, with bathing facilities, clean and sanitary space.

2. Home spa space:

Home spa space (upscale bathroom) mainly refer to the private spa bathroom which function is as the 2nd-livingroom, it is used for relax, communication, entertainment, and wellness area in houses or resorts, and offer an unique experience and the ultimate indulgence: an oasis of calm and relaxation in the center of busy city life. And put the concept of "Slow Life" into home spa design. This is an ethereal image of a wellness suite, lost in nature, a small, intimate, wonderful microcosm for the senses, a place for body and soul, with a relaxation effect that is eventually conveyed into everyday life, enjoyment with all the senses: Enjoy absolute peace, beauty and privacy. It is an experience for all the senses and it also means timeless enjoyment with each other.

3.2 Contemporary trends through comparative analysis of case studies

3.2.1 wellness experience in upscale bathroom space

Facilities in contemporary upscale bathroom can be roughly divided into the following parts: home spa, massage bath, water rainy bath, medicated bath, mineral salt bath, bio sauna, Finnish sauna, outdoor sauna, steam bath, steam shower, infra-red, snow bath, ice bath...

1. Hot room with steam: Hot light, steam, sauna. Give people a relaxing hot experience.

2. Water Experience:

1) Water bathing pool: used for massage, health, treatment, entertainment. Including sports leisure pool, spa pool, mineral salt bath and so on.

2) Shower room and kneipp: desired temperature, smells, music, relaxed and elegant environment. Including showers, foot bathing (Figure 3-2), and kneipp pools.

3) Cooling challenge: to let people to experience a sense of the ice with a sudden change in body temperature, firm skin, promote blood circulation. Including snow chamber (Figure 3-3), ice fountain experience (Figure 3-4), Icehouse, snow showers (Figure 3-5) and so on.

3 Treatment Equipment: water testing, soap brush, dry flotation, massage, serail bath, spa pool.

4 Recreation Area: heated loungers, heated water beds, spiritual oasis space, water space meditation area, royal leisure space, hand-woven goods, leisure path, Sharon.

Upscale bathroom space in a private home spa design matures, people are no longer satisfied merely to experience the bathroom in liquid water environment, they explore and develop new ways of playing water, to experience the three form of water: solid, liquid, gas.

A wonderful spa bathroom space can not only enjoy the steam bath, hot sauna experience, there is a sense of ice space: ice fountain, ice room, snow room, snow showers. Ice fountain ice bath method gives people a sense of calm, while the design of snow showers, people can select the way of snowfall, moderate snowfall or blizzard through human touch. Each time use to generate clean and fresh snow, the process of light snow pieces melting, promote blood circulation and stimulate the senses, a challenge to complete their endurance limit of experience. These are the standard mode of snow bath, and people also can customize according to their own needs and the sun out of time to add to your personalized design style. There are zero contact with water on the water experience: Experience as touch-sided water massage, water bed.

There are also companies such as THERMARIVM (SPA DESIGN &MANUFACTURE) which designed and produced some of home spa space. They offer personalized health systems for the customer's personal health and sanitary needs, through people's health needs to design health leisure bathroom space. Nature is the starting point of the spa environment. Comfort and handling system, adjust the balance of mind and body. Slow

down the speed of breathing, guided completely relaxed state. Achieve harmony between calm and relaxation by physiological feedback by skin and senses.



Fig.3-2 Outdoor sauna



Fig.3-3 Foot bathing



Fig.3-4 Snow house



Fig.3-5 Ice fountain pool



Fig.3-6 Snow shower



Fig.3-7 Multifunctional bathroom products

3. 2. 2 Upscale bathroom design case studies

1 Alila Hotels & Resorts

The Alila Villas Uluwatu is the first resort in Bali designed from the ground up to achieve Green Globe certification, the highest level of Environmentally Sustainable Design (ESD) certification. Its leitmotif is harmony with nature, expressed in everything from the locally sourced building materials to the seamless transitions between indoor and out. The dramatic tropical landscape of Bali's Bukit Peninsula served as both foundation and inspiration. Atop a 100-meter cliff, the 84 luxuriously spacious villas are thus open to the outdoors, offering Indian Ocean views from bed to bathtub. Each villa is equipped with

private pool, cabana, garden, and pavilion, and is executed in a contemporary design softened by traditional Balinese touches. Thanks to the resort's attention to water conservation, recycling, and energy-saving, guests can relax in guiltless bliss in the knowledge that their ecological footprint is being kept at a minimum. At the same time they can enjoy all the services and amenities inherent to a five-star resort. The Alila Villas Uluwatu proves that celebrating nature doesn't mean forsaking comfort. (from: <The design hotels book---edition 2011 A curated collection of 200 design hotels worldwide> page393)

The resort's pool villas are all about private space, incredible comfort and views.

Gorgeous interiors blend contemporary style with accents of Bali. The open-plan design, unique flat lava rock roofs and bamboo ceilings allow the gentle sea breeze to flow in freely, while from the bed to the bathtub, every view is open to the outdoors.

An indoor and outdoor rain shower and jet shower, luxurious Ploh bed linens, and separate. His and Hers bathroom amenities are just some of the indulgent pleasures. But none more so than lazing in your private pool and cabana overlooking the ocean.

The architectural language combines refreshing contemporary lines and detailing with traditional materials that allude to the rich Balinese culture and built heritage. The interiors are lushly furnished and resonate with a soft, clean chic-ness that contrasts with the rich and rugged gardens and site.





Fig.3-8 Outdoor swimming pool in Alila Hotels & Resorts



Fig.3-9 Bathroom in Alila Hotels & Resorts



Fig.3-10 Shower in Alila Hotels & Resorts

a. Location:

Bali, Indonesia

b. Plan layout

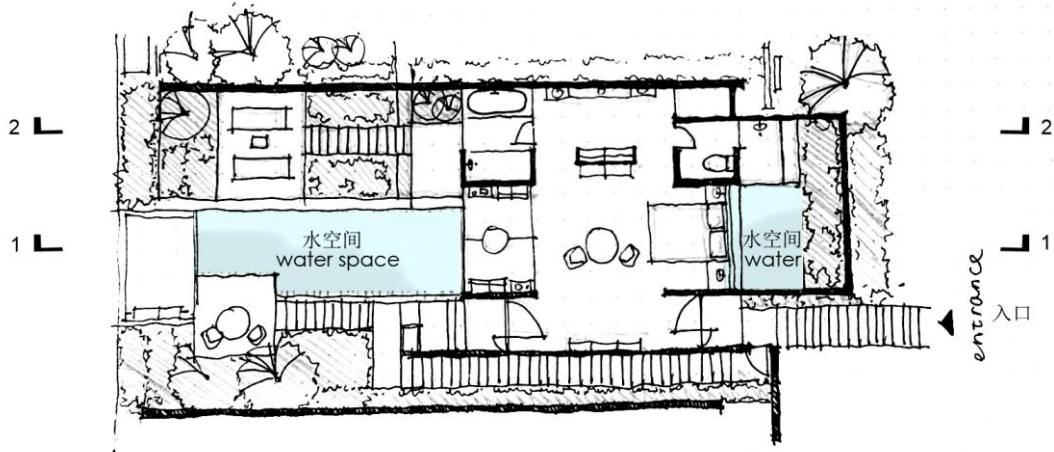


Fig.3-11 Guest room plan layout in Alila Hotels & Resorts

c. Section layout

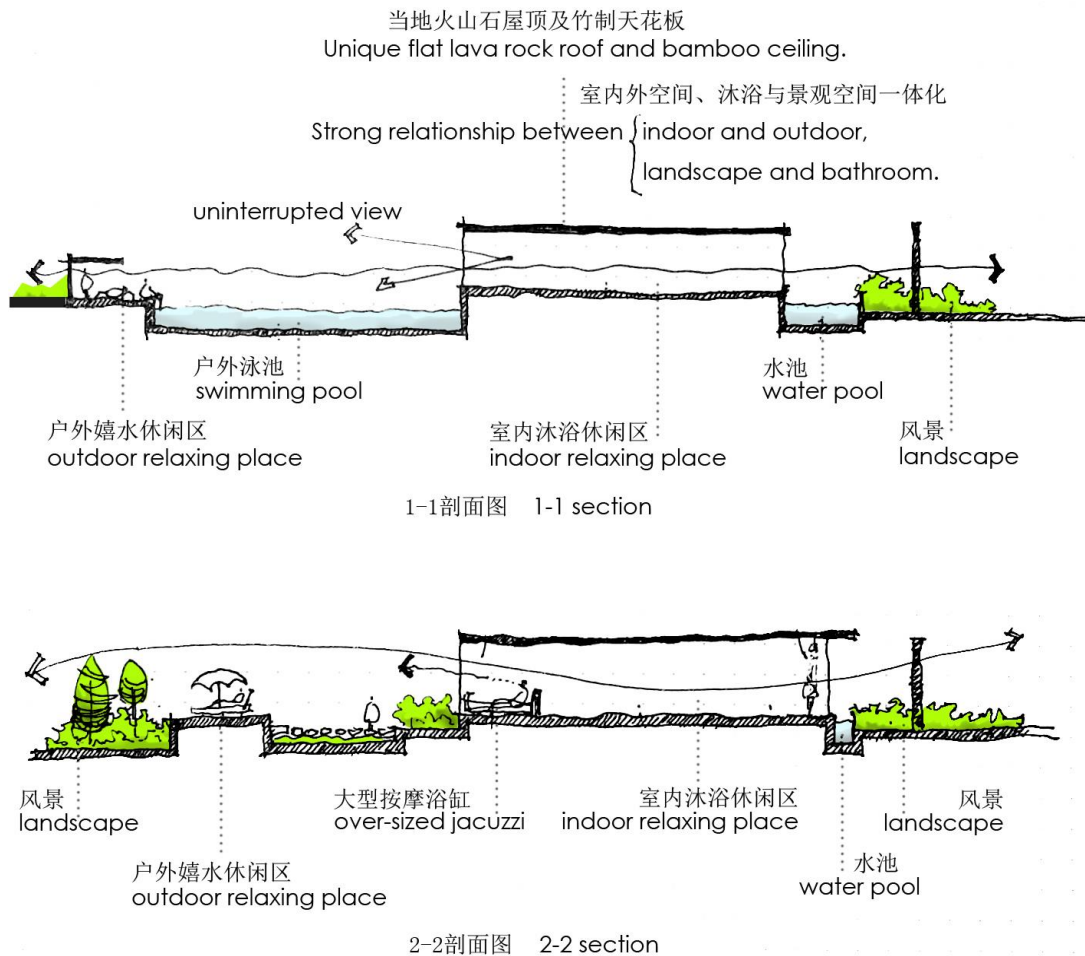
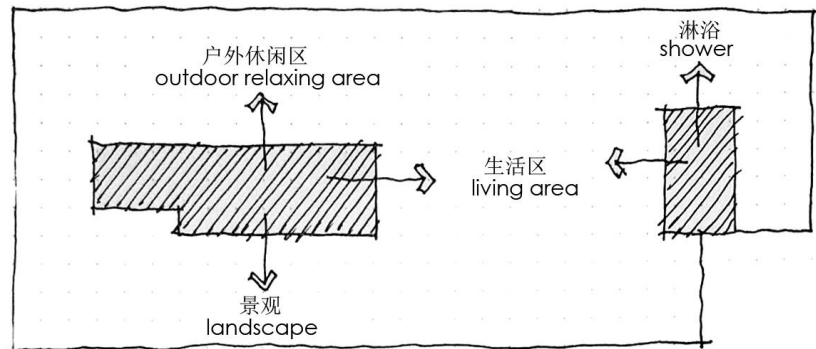
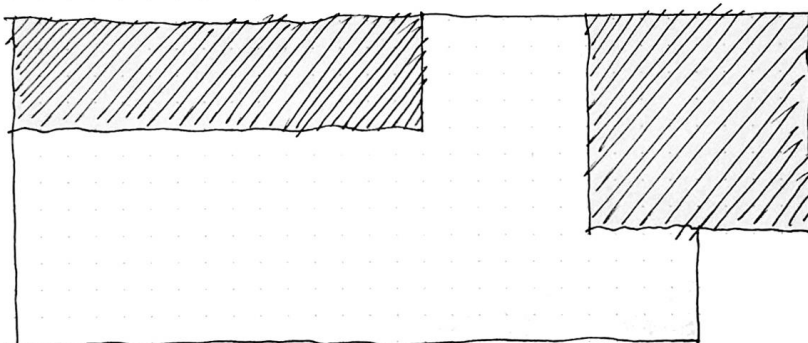


Fig.3-12 Guest room section layout in Alila Hotels & Resorts

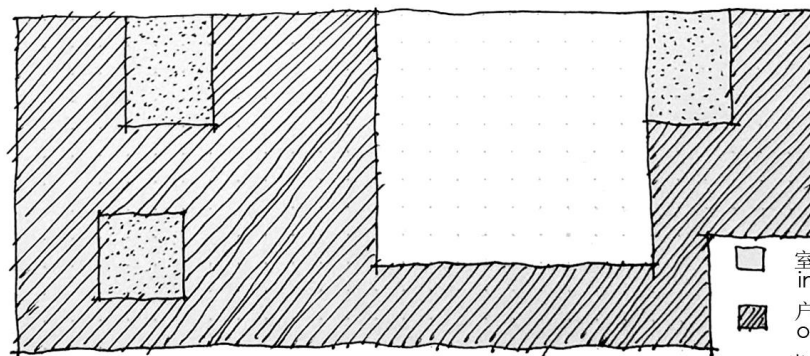
d. Space layout:



为周围区域服务的水空间
water pool for other function rooms



两处沐浴休闲区
two bathroom space relaxing system



室内外空间延伸至两个层次, 并与周围环境和谐相融。
lavish indoor and outdoor space spread over two levels,
in harmony with its natural surroundings.

Fig.3-13 Guest room space layout in Alila Hotels & Resorts

e. Scale processing:

Connect bed-room, living-room, bathroom to a whole relaxing system without separate rooms

f. Material treatment:

Unique flat lava rock roofs & bamboo ceiling

g. Color processing:

Tradition local purity white stone color, wood and bamboo color

h. Water design:

Indoor space surrounded by water pool space,

Water system connect indoor to outdoor

i. Lighting design:

Mainly sunlight by open-space design

j. Use of landscape:

Strong relationship with landscape, mix green space into interior design

K. Synthesis:

Key solution: This layout is clever because it has placed the water in the middle of the room so that all the area can benefit that at the same time.

Key concept: dividing more function of the part to do more relax. Consider the unique space as a whole relaxing system. Also, this bathroom really brings the outdoors in. Creating this connection with nature gives the bathroom a day spa like feel in the home -- simply the perfect escape.

2. Casa de La Flora Resort

Completion date: 2011

Designer: VaSLab Architecture

Area: 6,500 sqm

The latest member of Design Hotel in Thailand, Casa de La Flora, the 36 cube-shaped villas located in Khao Lak, brings a modern edge to this palm tree beach of Phangnga province. Designed by VaSLab Architecture, commissioned in 2008 by one of leading Thai businessmen Sompong Dowpiset, this beachfront resort was aimed to serve as a new high profile but yet humble destination hotel in this beautiful town of the southern Thailand. The brief given to the architect is a unique resort that consists a series of pool villas with maximum ocean views possible. Facilities as reception lounge, swimming pool, pool bar, beachfront restaurant, spa, fitness, and library are the must-have programs in this hotel. The owner challenges the architect to create a bold look of architecture but yet yields to warmth and nature after its implied name, "flora". VaSLab's metaphorical design takes on the act of "arising flora", where each concrete versus wood villa reflects as a flora form, emerges from the ground, and blooms to reach the daylight. Deviated walls and tilted roofs are characterized throughout the series of 36 cubic-form villas, where these tapered elements do not only recall the act of arising flora but they widen the room's perspective frames when looking outward to the sea.

The continuity of these lines can be seen also in interior space and at interior elements such as built-in beds, coffee tables, and built-in cabinets. Custom-made furniture designed by Anon Pairot Design Studio carries this thematic design as some of them represent

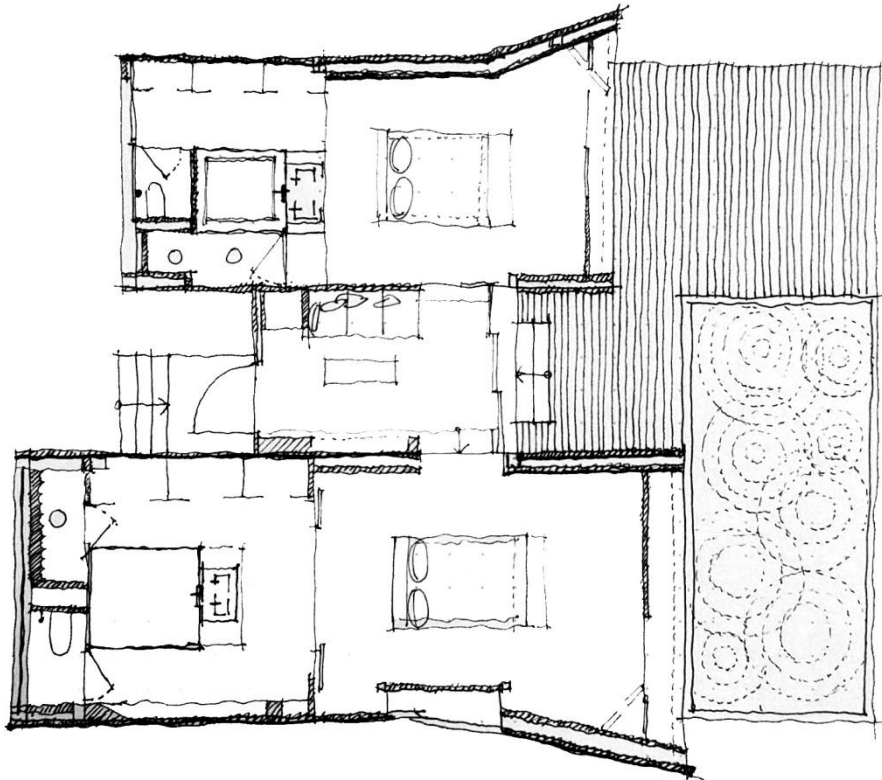
organic form of a flora. The same as landscape and hardscape work from a talented designer T.R.O.P., who extends the lines of architecture into a set of charming path ways, pavement blocks, green walls, etc., as they act as its architecture's root, stem, and branches. APLD, the lighting designer, abstractly sets the resort's lighting to provoke the main architectural elements: deviated walls, tilted roofs, as if the villa cubes are arising above the ground.

Its glass-fronted villas have clean interiors featuring concrete surfaces, natural stone walls, and wooden floors/ceilings. Ten units stand directly to the beach, with maximum sea views, and all come with private pools, 24-hour butler service and the latest in-room entertainment. Eco-friendly credentials come in the form of an ozone (low-chemical) purification system for the swimming pools and waste-water and rain water recycling.

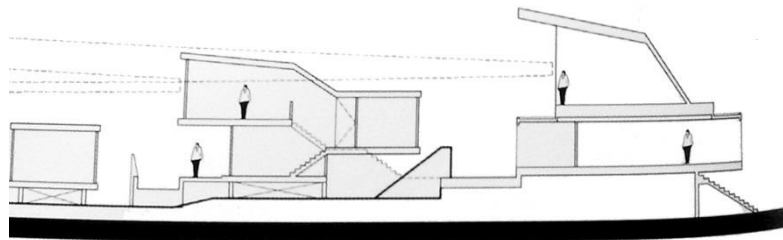
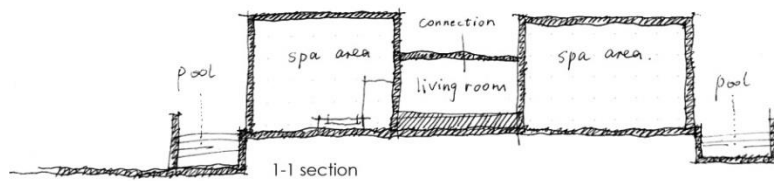
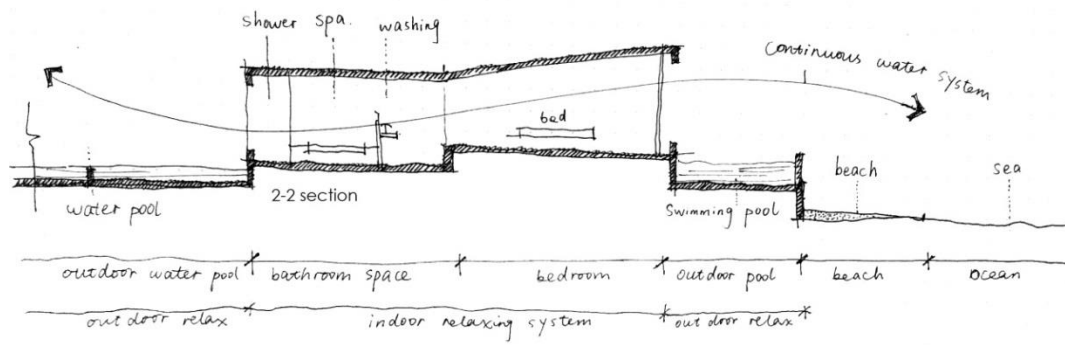




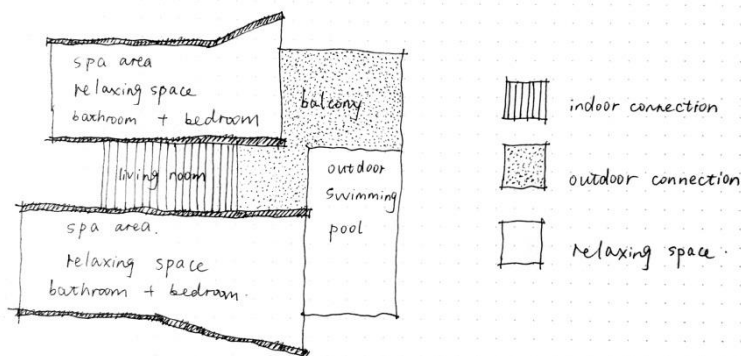
- a. **Location:**
Phangnga, Thailand
- b. **Plan layout**

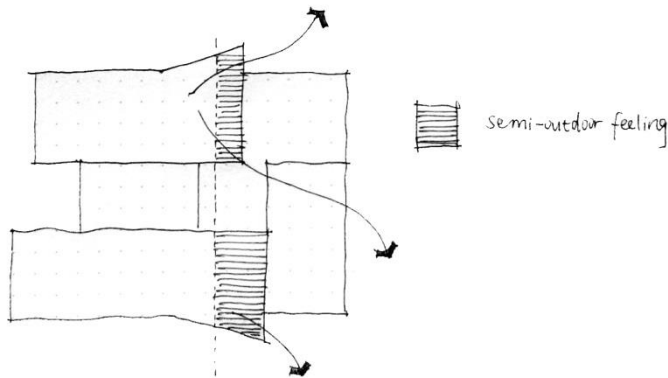
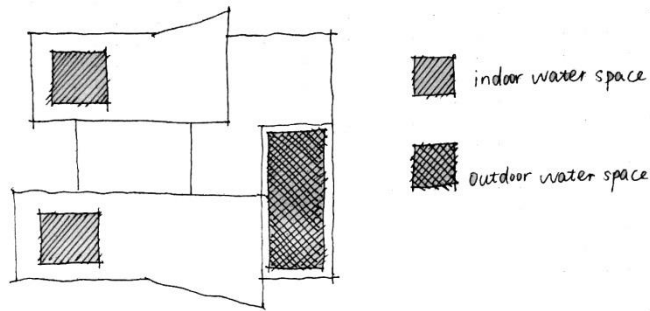


c. Section layout



d. Space layout:





e. Scale processing:

Connect bathroom, spa space, bed-room, balcony, swimming pool to a whole relaxing system without separate rooms, the living room is considered as a connection area.

f. Material treatment:

Featuring concrete surfaces, natural stone walls, and wooden floors/ceilings

g. Color processing:

Light grey and wood color

h. Water design:

A unique resort that consists a series of pool villas with maximum ocean views possible.

i. Lighting design:

Mainly sunlight by open-space design

j. Use of landscape:

Beachfront villa with inside-out relationship between interior and exterior.

k. Equipment

l. Synthesis:

Key solution: This layout is clever because it has placed a latest in-room entertainment. Eco-friendly credentials come in the form of an ozone (low-chemical) purification system for the swimming pools and waste-water and rain water recycling.

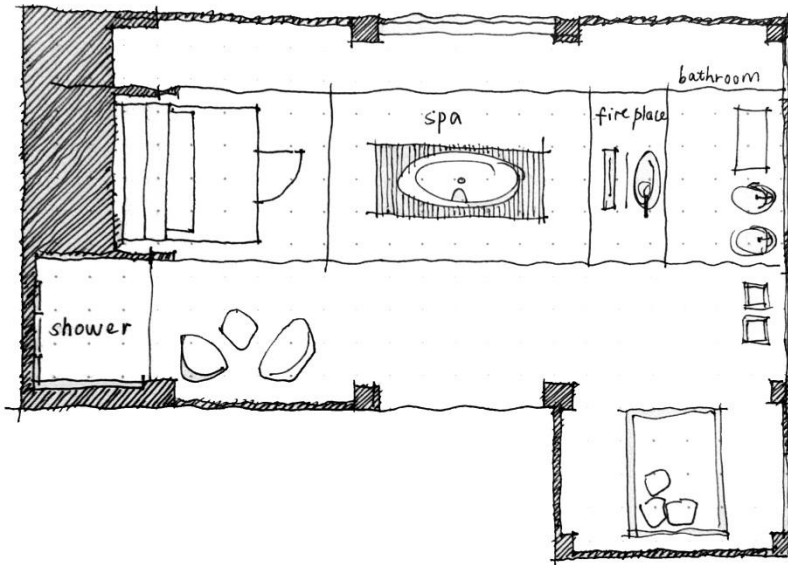
Key concept: dividing more function of the part to do more relax. Consider each room as a relaxing unit.

3. Aetherea concept Spa

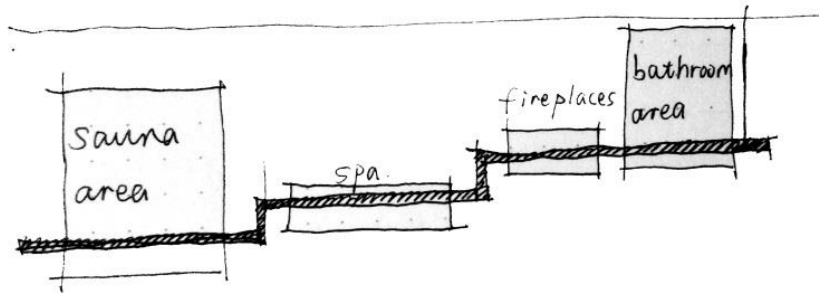
This is an ethereal image of a wellness suite, lost in nature, a small, intimate, wonderful microcosm for the senses. A wooden structure, resembling a tape incorporates all elements. The central hub, a scenic and attractive element, is dedicated to the Jacuzzi with the great chandelier overhead. Two wellness areas lie on either side, one with a scenic sauna made of strips of heat-treated solid ash and abaky wood benches and a steam aromatic bath with a big glass front. The other one contains the bath area, ideally separated from the Jacuzzi by a line of fireplaces encased in structure. The most secluded zone contains a suspended bed to float and relax. The walls are covered with a digital print mosaic of stylized trees.



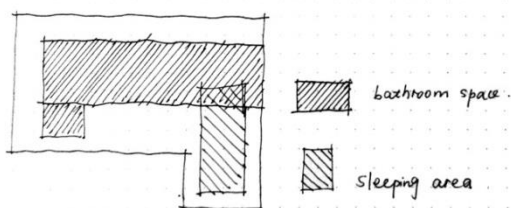
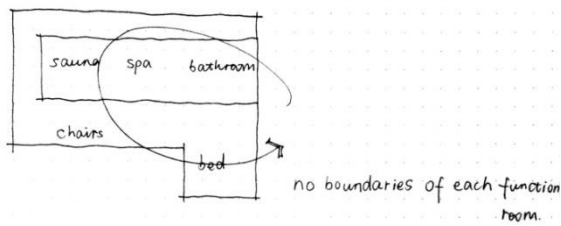
- a. Location:
Milan, Italy
- b. Plan layout



- c. Section layout



- d. Space layout:



e. Scale processing:

Connect bathroom, spa space, sauna area, bed-room to a whole relaxing system without separate rooms, the scale between bedroom area and bathroom area is totally different from other designs.

f. Material treatment:

Transparent glass and wooden floors/ceilings, digital print mosaic walls, wooden structure.

g. Color processing:

Wood color

h. Water design:

Water soaking area is set in the middle of the room.

i. Lighting design:

Mainly artificial lighting

j. Use of landscape:

Put nature elements inside the whole room

k. Equipment

l. Synthesis:

Key solution: This layout is clever because it is a great image of a wellness suite, a small, intimate, wonderful microcosm for the senses.

Key concept: Two wellness areas in one bathroom space, the whole room like a big spa area.

4. Hotel Wiesergut

Completion date: 2012

Designer: Gogl Architekten

Area: 5,047 sqm

The goal of the architectural concept was to upgrade the existing traditional structure with puristic architecture. Monika Gogl therefore worked very consciously with contrasting materials such as local wood, natural stone, granite, glass and exposed concrete. The timeless style puts nature at its centre. Alongside the planning of the building complex, the office and its entire interior design was also commissioned. Numerous items of furniture and individual pieces were individually designed, which optimise their functions with much attention to detail and lend the interior design its harmonic and elegant overall impression.





Fig.3-14 Guest room bathroom



Fig.3-15 Outdoor swimming pool

- a. Location:
Hinterglemm, Austria
- b. Plan layout

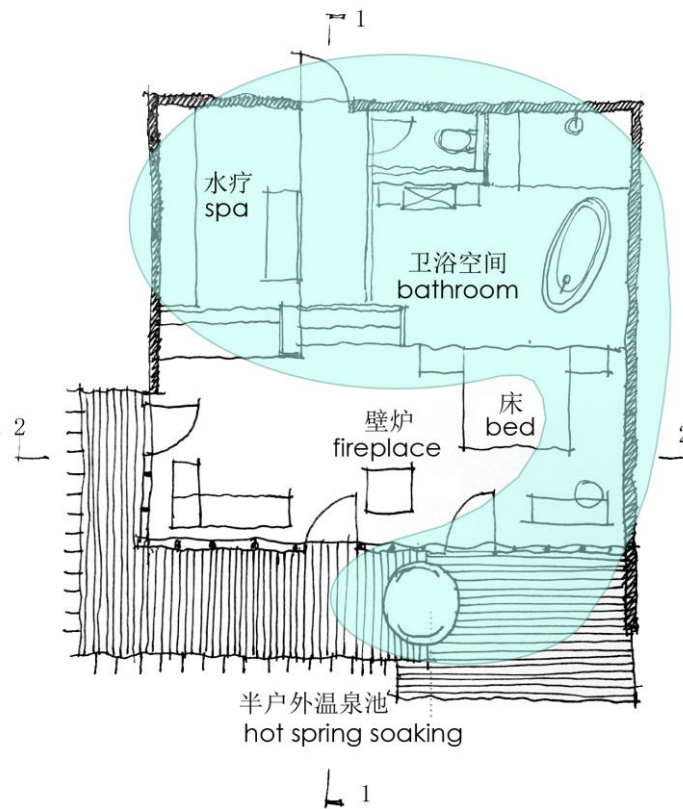


Fig.3-16 Guest room plan layout of Hotel Wiesergut

c. Section layout

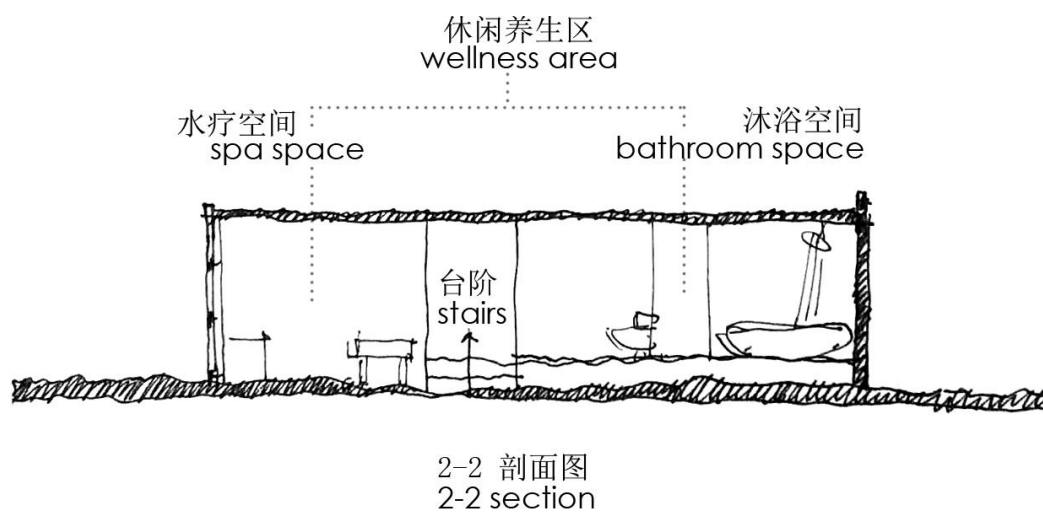
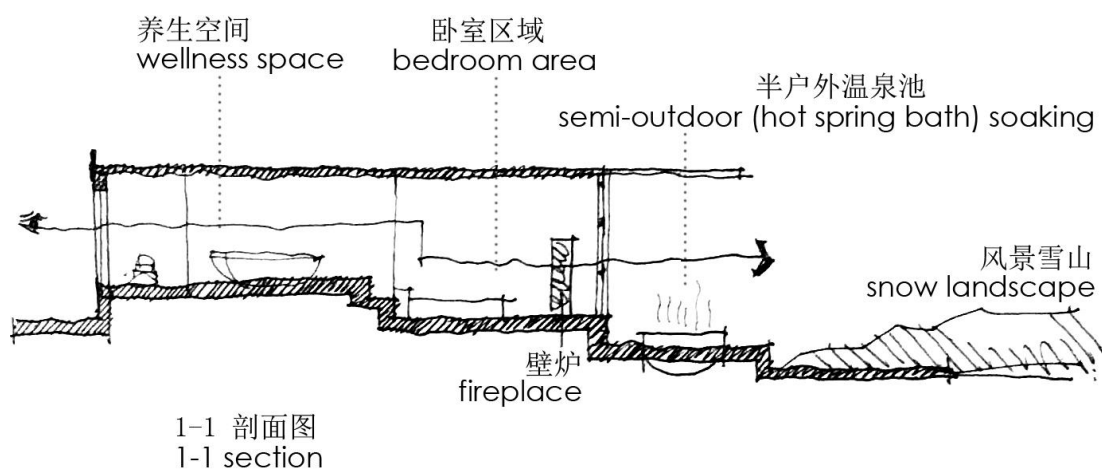


Fig.3-17 Guest room section layout of Hotel Wiesergut

d. Space layout:

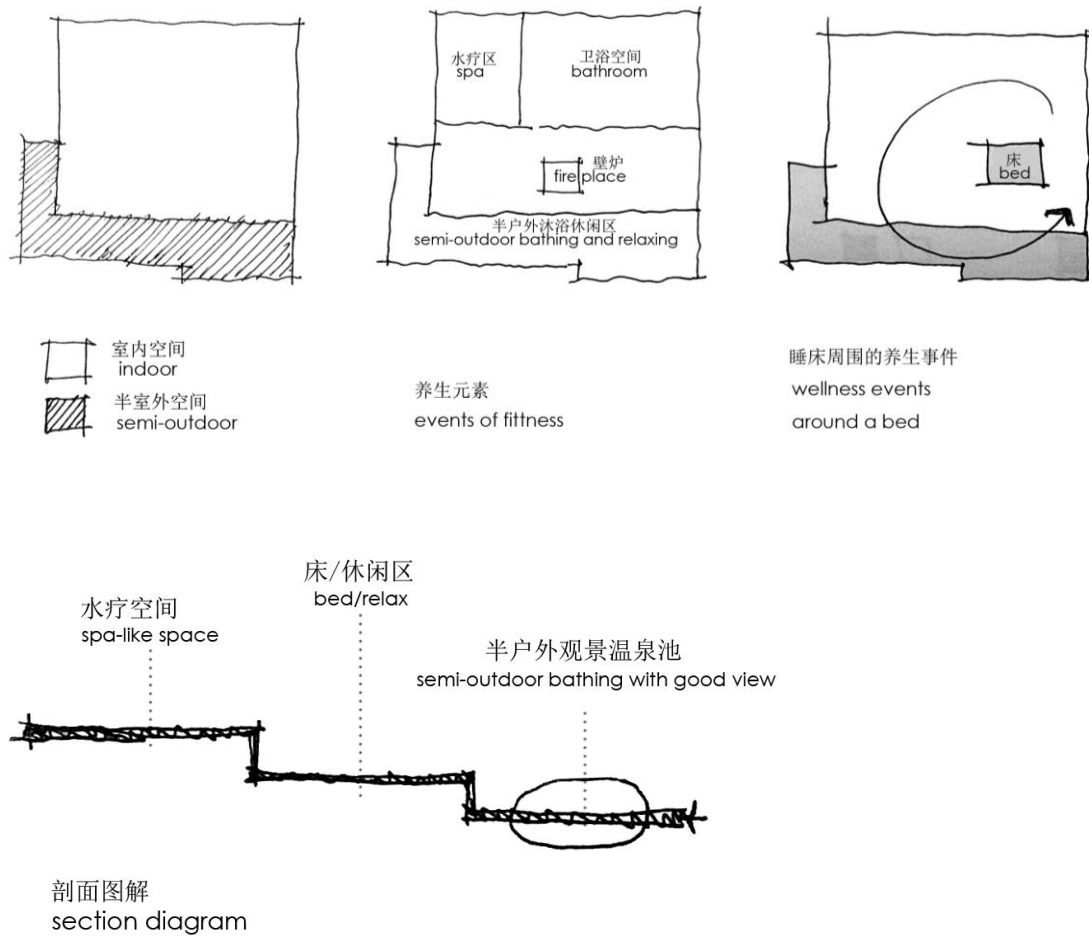


Fig.3-18 Guest room space layout of Hotel Wiesergut

e. Scale processing:

Connect semi-door spring-soaking pool, bathroom, spa room, bed-room, to a whole Spa-like area with different height. The whole room is a wellness space, no boundary between any functions.

f. Material treatment:

Local wood, natural stone, granite, glass and exposed concrete.

g. Color processing:

Light grey natural stone color and dark wood color.

h. Water design:

water-using area is scattered around the middle fireplace..

i. Lighting design:

Artificial lighting and sunlight both, but mainly sunlight through the glass wall.

j. Use of landscape:

Make full use of the glass wall to get a vast view of landscape.

k. Equipment

l. Synthesis:

Key solution: This layout is clever because a bed and a fireplace are set in the middle area inside the relaxing wellness space rather than isolated placed.

Key concept: Create different architectural space level to distinguish roomage without partition walls so that the whole room becomes a leisure space of flows.

5. Garden Terrace Miyazaki resort and hotel

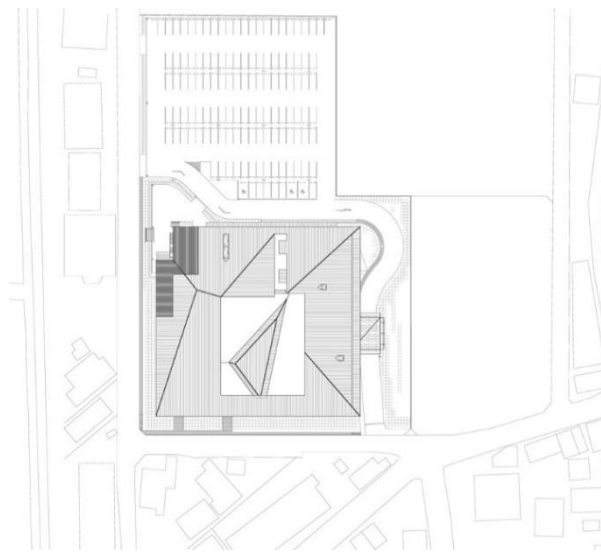


Fig.3-19 Site plan of Garden Terrace Miyazaki resort and hotel

Completion date: September,2012

Designer: Kengo Kuma and Associates

Area: 4,562.04 sqm

The hotel was built at a vast site near JR Miyazaki station, where a factory once stood. Around it houses and apartments spread in no particular order. Facilities of the hotel - guest rooms, banquet room and restaurants are arranged to circle the courtyard. Loosely sloped roof came out as the result of each function underneath. It wraps the entire building - two-storied structure under the deep eaves. Bamboo is planted and water is laid out in and out of the hotel and its courtyard, providing calm and tranquil environment that stretches even to the residential area.

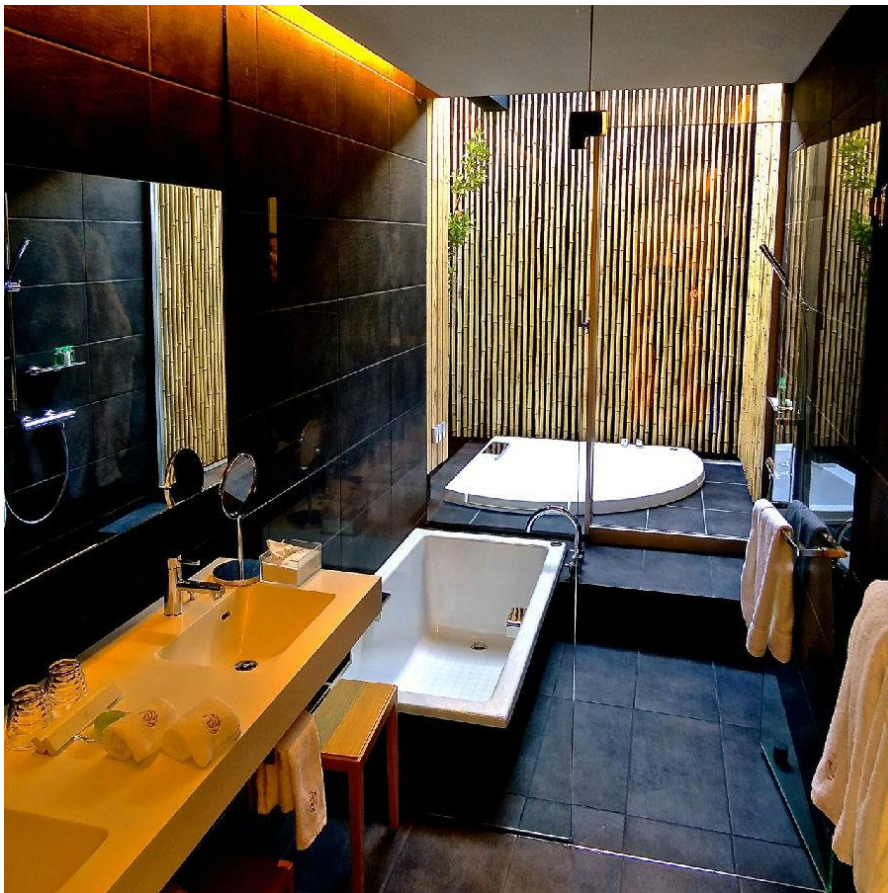


Fig.3-20 Guest room bathroom in Garden Terrace Miyazaki resort and hotel

a. Location:

248-17, Shimohara-cho, Miyazaki, Japan

b. Plan layout:

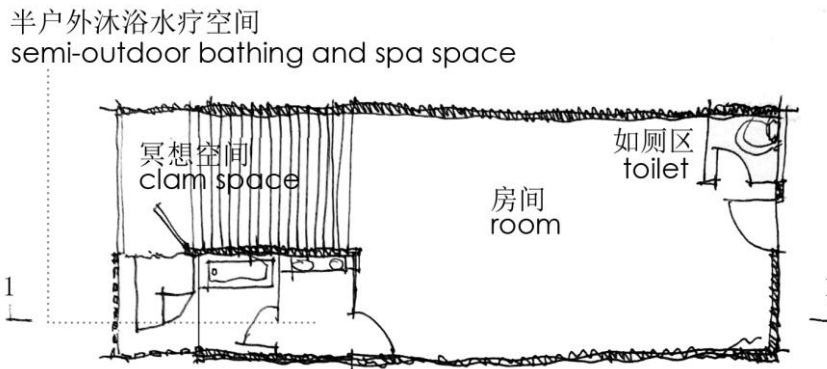


Fig.3-21 Guest room bathroom plan in Garden Terrace Miyazaki resort and hotel

c. Section layout:

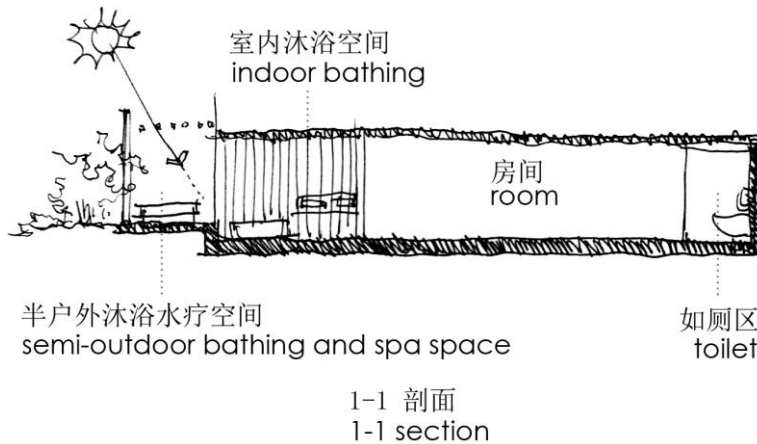


Fig.3-22 Section layout of guest room in Garden Terrace Miyazaki resort and hotel

d. Space layout:

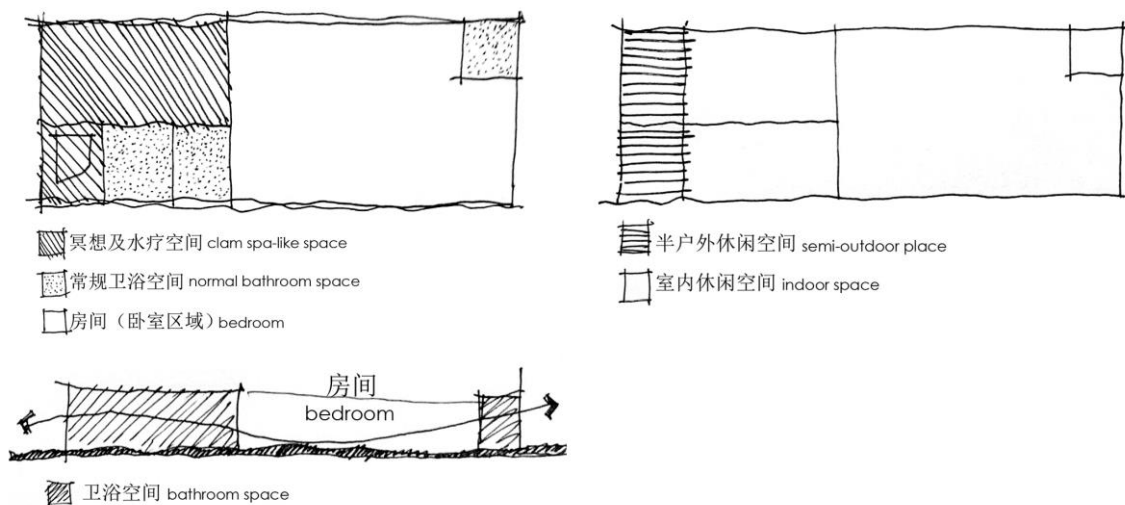


Fig.3-23 Space layout of guest room in Garden Terrace Miyazaki resort and hotel

e. Scale processing:

Bathroom space is designed as a “calm and tranquil environment”, where a landscape

of bamboo trees and pools of water provide a scenic setting to the spa area.

f. Material treatment:

Bamboo-cald walls to create a special fabric, to invite the outside plants extended inside bathroom.

g. Color processing:

Wood color

h. Water design:

Water is used to shape the space for clam mood and emotion.

i. Lighting design:

Artificial lighting & natural lighting

j. Use of landscape:

Create landscape itself

k. Equipment

l. Synthesis:

Key solution: This layout is clever because though there's no vast beautiful landscape around the building, Kengo Kuma still create a spa-like bathroom space which has sense of relaxing by using semi-outdoor bathing area.

Key concept: Make full use of bamboo material and water to create a slowly and deliberately peaceful "home spa".

6 Moonlight Motel

Completion date: 2006

Designer: Zheng Tanghuang

Designers trying to create new work for the moonlight motel, especially on bathroom, from architecture to interior, they doing multi-faceted interpretations in spatial relationships, material, type, and sensory aspects. Consumers under different themes designed by architect experienced a different life.



Fig.3-24 Bathing space of guest room in Moonlight Motel-1



Fig.3-25 Bathing space of guest room in Moonlight Motel-2



Fig.3-26 Bathing space of guest room in Moonlight Motel-3

a. Location:

Taizhong, Taiwan, china

b. Plan layout

Not find yet

c. Section layout

Not find yet

d. Space layout:

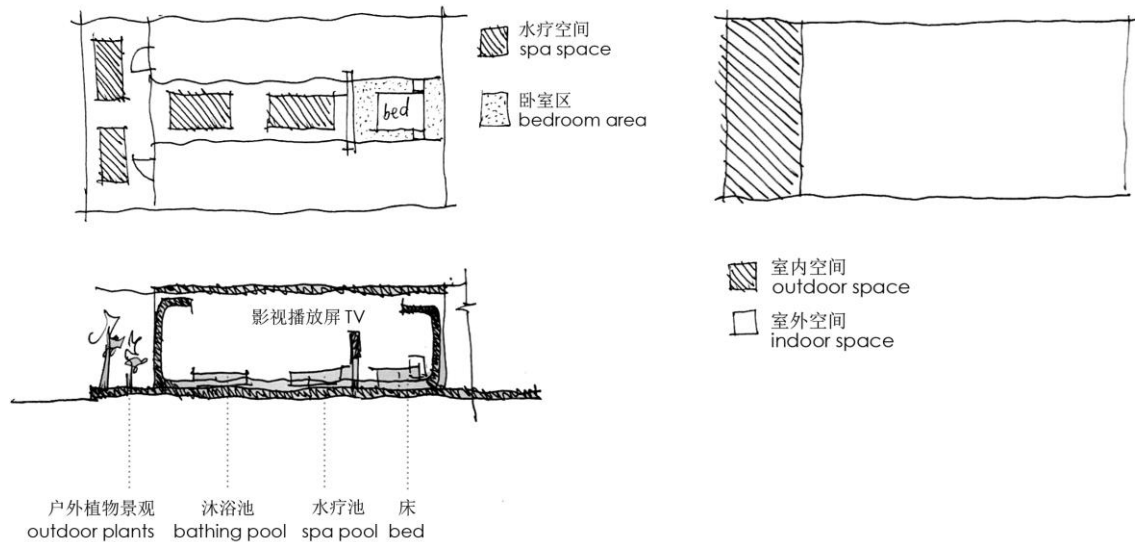


Fig.3-27 Space layout of guest room in Garden Terrace Miyazaki resort and hotel

e. Scale processing:

The garden space is no longer with landscape only; it becomes interactive elements with people in outdoor spa area.

f. Material treatment:

natural stone and plants

g. Color processing:

Light grey, wood color

h. Water design:

Indoor space is set by water pool space,
Water system connect indoor to outdoor

i. Lighting design:

Mainly sunlight by open-space design

j. Use of landscape:

Architect design the landscape inside the building.

K. Synthesis:

Key solution: This layout is clever because its interior design does not depend on

decoration, moldings, etc., but architectural space level, and brings a sense of space experience.

Key concept: By rendering the atmosphere to increase the sense of mystery, moonlight motel design exoticism mood expression, sensory diversity of interpretation, emptying their customer and create a dream for them, redefining the relationship between activity and excessive space.

7. Innhouse

INNHOUSE” is set on a forested hill with sweeping views of a green valley and the Kunming cityscape. This eco guest house is conceived as a village for travelers, with 17 guest suites in a cluster of four L-shaped structures linked by natural trails and courtyards at varying levels. Densely landscaped with many retained trees, the timber clad building with reconstituted bamboo decking is a simple arrangement of forms largely devoid of decoration. Each building unit is composed of three masses – two wings and a semi-opened vertical circulation unit – linked by a viewing bridge-corridor. Each guest suite reads as an extension of the landscape. Integrated with a cantilevered balcony, the living spaces open directly into the surrounding greenery. With subtle lighting through a series of vertical windows, the more private bathroom end is behind a feature partition wall and forms a box within a box. Primary sustainable technologies applied include passive design to maximize day lighting and natural ventilation.



Fig.3-28 Site plan of Innhouse



Fig.3-29 Bathroom space in Innhouse

a. Location:

The city of Kunming, Yunnan province, China

b. Plan layout

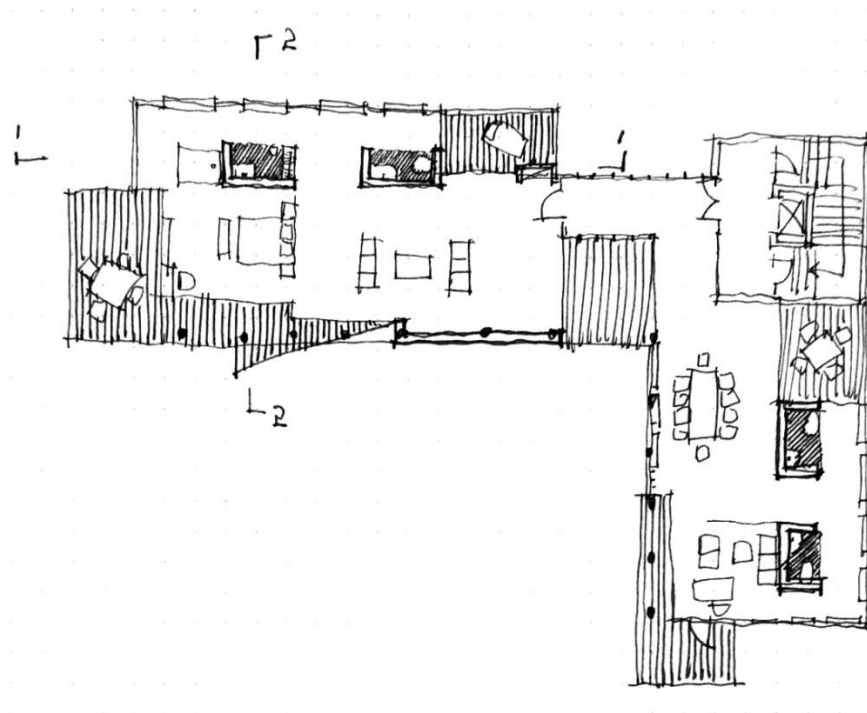


Fig.3-30 Guest room plan layout in Innhouse

c. Section layout

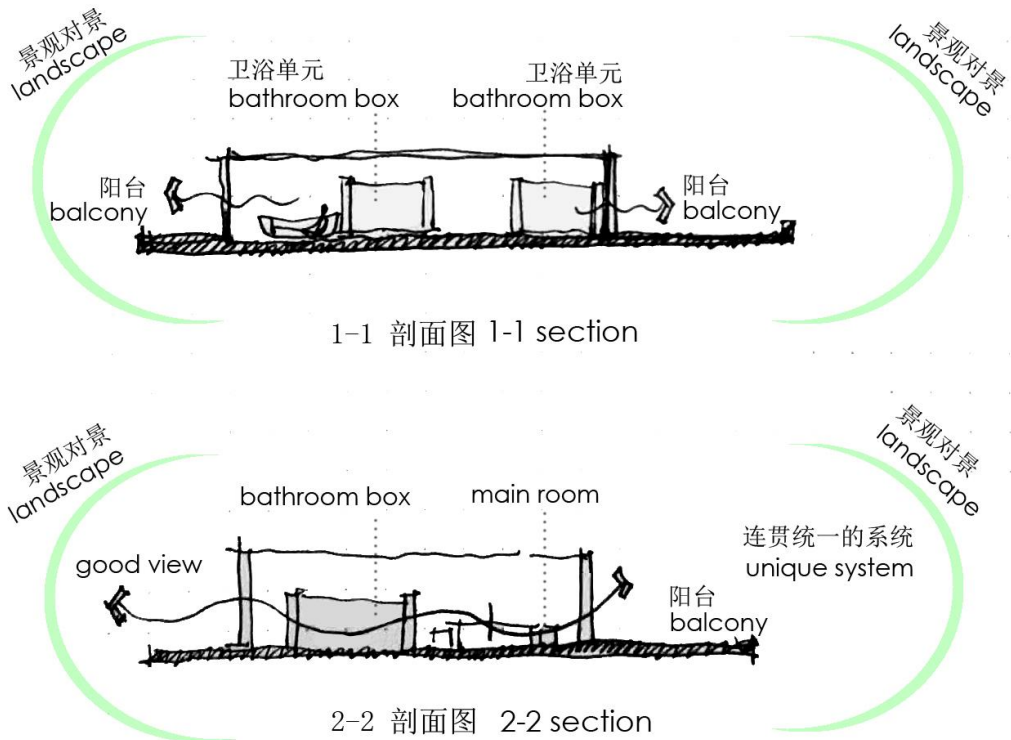
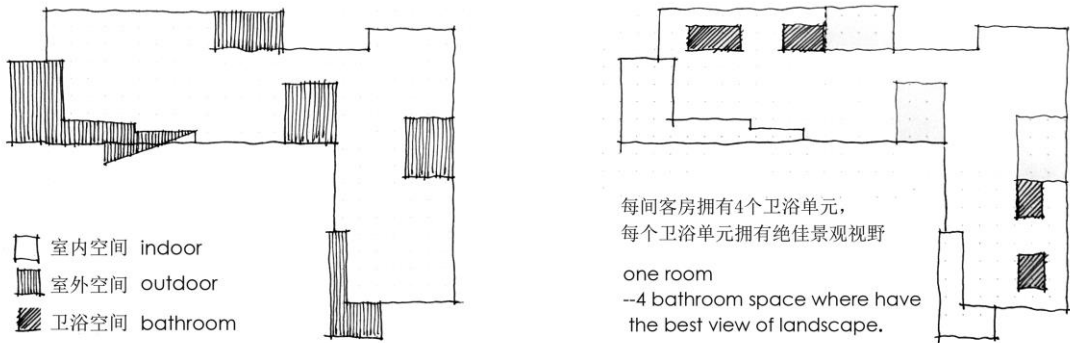


Fig.3-31 Guest room section layout in Innhouse

d. Space layout:



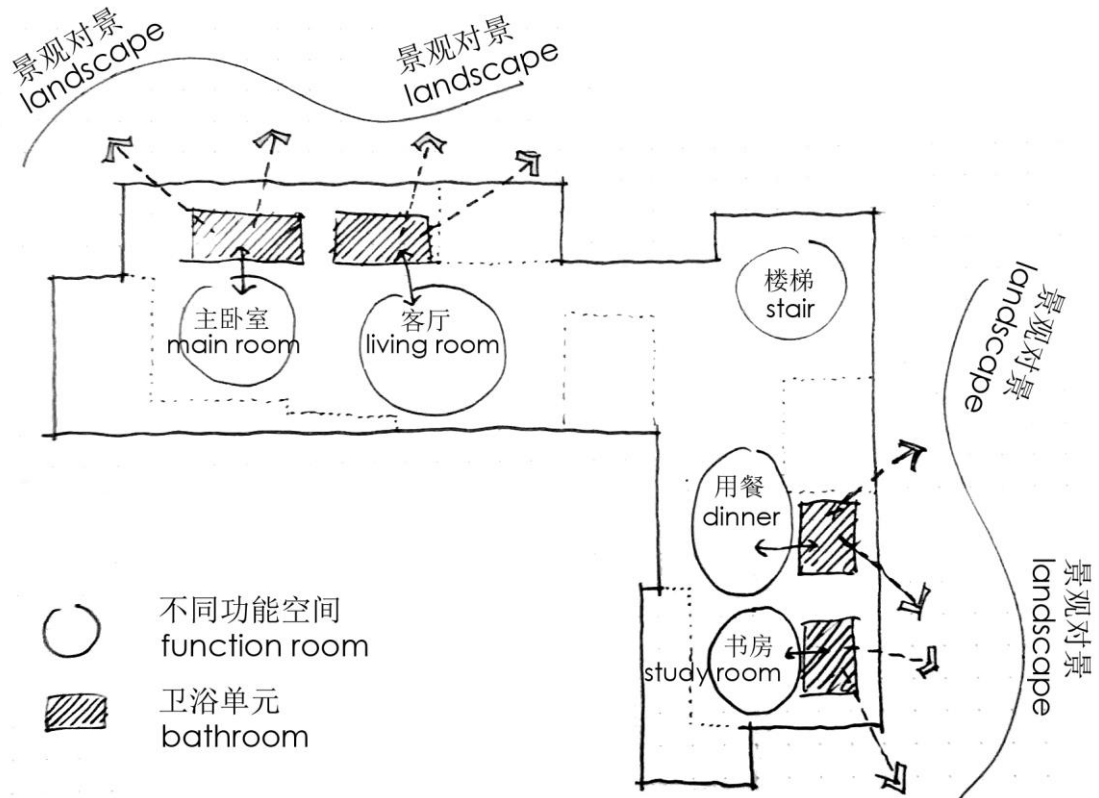


Fig.3-32 Guest room space layout in Innhouse

Relationship with other function room

e. Scale processing:

It is a new bathroom space design planning, which separates the whole bathroom area into four bathroom “boxes” with more private feeling but in more open space.

f. Material treatment:

Wood & bambo walls

g. Color processing:

Purity white color, wood and bamboo color

h. Water design:

Water design is on the technical layer: site watershed conservation, solar thermal hot water, rainwater recycling and grey water reuse, a highly insulated envelope, reconstituted bamboo with low embodied energy, habitat preservation and intelligent building control.

i. Lighting design:

The design of the vertical window is used for creating certain light which is like the light through trees.

j. Use of landscape:

Strong relationship with landscape, each bathroom space has a good view with landscape.

k. Equipment

I. Synthesis:

Key solution: This layout is clever because it has placed the bathroom not in an isolate negative corner but with each function room such as the main room, balcony, kitchen and study room.

Key concept: The more private bathroom end is behind a feature partition wall and forms "a box within a box". But in each "box", people have a great view of landscape which gives the feeling of they own an ultimate world.

Summary from above:

These case studies above are representative of the characteristics of upscale bathroom space. Spa is the abbreviation of "Solus par aqua", in Latin means "health, through water", "healthy water", therefore, home spa gradually respected by more and more people. The first few case studies are make full use of water space to mining regression between man and water, while others pay more attention to the wonderful space inside bathroom.

Case study 1 and 2 are open-design bathroom in top-grade resort; with flowing landscape through indoor and outdoor connect with bathroom.

Case study 3 and 4 are European upscale spa space design in resort hotel, aim to design bathroom space together with the whole space design planning from architectural design level, not just confined to the indoor decoration level, in order to explore the redefinition of relaxing bathroom space, and rethinking the relationship between bathroom and other rooms.

Case study 5 is bathroom space design by a famous Japanese architect, the innovation is to reconsider the meaning of bathroom space, namely static meditation space, bring people relaxed sense, feeling, and thinking space.

Case study 6 is the exploration of high quality bathroom space design in Taiwan, the use of putting modern means to China's traditional artistic conception into the bathroom space design, and move people from the emotional aspect, highlight the elegant temperament and sense of wellness.

Case study 7 is upscale bathroom design examples on mainland China, which is to try diversity of a deep mining in bathroom space design.

3.2.3 Similarities and differences between upscale bathroom design in top-grade resort hotels and in houses

1. Differences between upscale bathroom design in top-grade resort hotels and in houses:

1) Freedom of indoor and outdoor extension: top-grade resort's guest room space design try to give people the peaceful and comfortable feeling like they are at home, while water space always extend and connect to outdoor landscape or public wellness space, which has more freedom than top-grade houses.

2) The degree of integration of leisure space:

Upscale bathroom design in top-grade resort often design the space together with room or landscape or balcony in order to form an unique relaxing system, and bring people maximize relaxing sense with nature; while upscale bathroom design in top-grade houses design the space together with sitting room, study room or main room or even kitchen so that family awareness can be reached the highest point with family member.

3) Static and dynamic atmosphere:

The space defending bath of top-grade resort design gives a person the feeling of away from the hustle and bustle, static body-relaxing hidden experience; while in top-grade houses space that defend bath can be both dynamically joy together with family or friends in the happy entertainment and precipitate statically thoughts, good mood, calm and stable peace.

4) The contradiction of design purpose:

Upscale bathroom design in top-grade resort is to give travelers romantic sense of elation, and people thought diluted in slow holiday rhythm, spiritual freedom scale also affects the processing of water space; while upscale bathroom design in top-grade houses will be the joy and sense of calm in the warmth of home.

5) Experiment of the space scale:

Up bathroom in top-grade resort hotel often try to exaggerate space transformation, or function inversion in order to bring people new feelings, while top-grade houses in this respect is more rational.

6) The reappearance of regional customs:

Top-grade resort hotel in order to introduce the vernacular and display environment and local customs and practices to visitors, the bathroom space design has a high requirement for which cater to the local customs, material, and spiritual while upscale bathroom design in top-grade houses for reproduction and geographic environment of this kind of spirit of place of the response is often not very eager or strict requirements.

2. Similarities between upscale bathroom design in top-grade resort hotels and in houses:

1) Life style guiding:

Upscale bathroom design in top-grade resort hotels and in houses can cover and shape cultures, and offer people experience variety life style, and improve the level of their lives.

2) Cannot be copied quickly:

Upscale bathroom design in top-grade resort hotels and in houses requires the designers' patience to carve, to innovate, not a single rapid replication.

3) Space atmosphere designing:

Upscale bathroom designs in top-grade resort hotels and in houses are similar in atmosphere design, and pay more attention to the psychological level of experience and relaxation in scale and environmental design. Upscale bathroom design in top-grade houses usually designed as comfortable and relatable as in other rooms while upscale bathroom design in senior resort is to create a "home" outside home.

4) Emotional expectations:

Due to the concept of wellness bathing and slow life, the relaxing of "cultivation culture" replaces the traditional only for cleaning "bathing culture". Upscale bathroom design in top-grade resort hotels and in houses brings health, energy, peaceful and calm self-adjusting space.

5) Depth of participation:

The traditional toilet is only used by people when they are bathing or make up, while upscale bathroom itself is a relaxing wellness system, home spa, so people with its interactive participation tend to be higher.

6) Reset the private feeling:

The privacy design of upscale bathroom is neither by strict closed walls nor independent self-closing type, but through the open space design more spacious to achieve spiritual space and let people to get the sense of privacy.

3.3 Contemporary trends through comparative analysis of case studies

3.3.1 Fuzzy the boundaries of different function space.

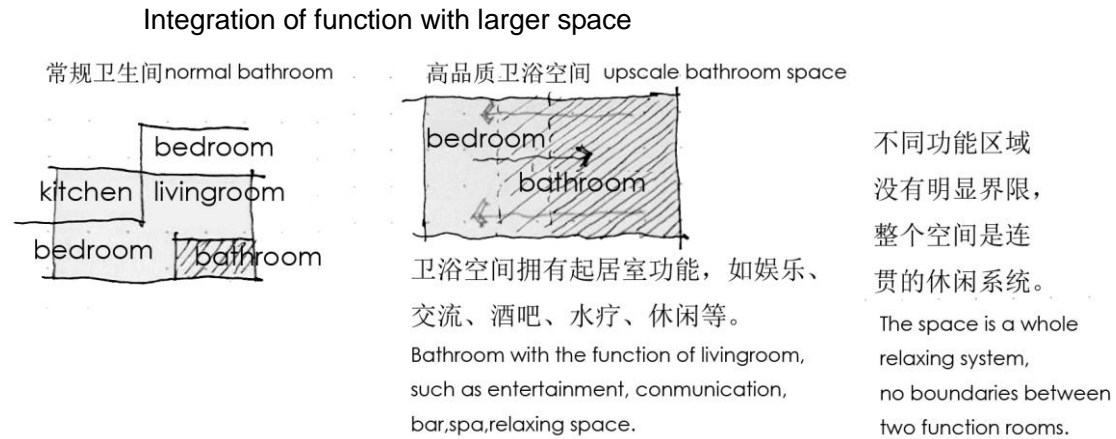


Fig.3-33 Bathroom space design-Boundaries fuzziness

1. Fuzzy boundaries:

Boundaries fuzzed, means the boundary between two function spaces has no strict walls or closed shelter, so that it won't make the transition space producing compelling sense of conflict, also reflected the flowing space in bathroom. Blurred the line between different leisure space can make tactile vision to extend. The following three boundary fuzzy design methods are both independent and complementary to each other:

1) Bathroom function fuzzed:

To form an unfinished transition state, to let the bathroom space extended to landscape area or other function area, the relationship between the different functions of the processing method is simple and interactive, this method become an efficient boundary of leisure activities.

2) Bathroom visual fuzzed:

To create variety interesting visual method by "lend landscape", "cover landscape" or "box scene", and intentionally confused indoor and outdoor landscape, extend the space sense without boundary. By eliminating the vision of the screen, brings the thinking and ideas on the spatial extension.

3) Boundaries of bathroom fuzzed:

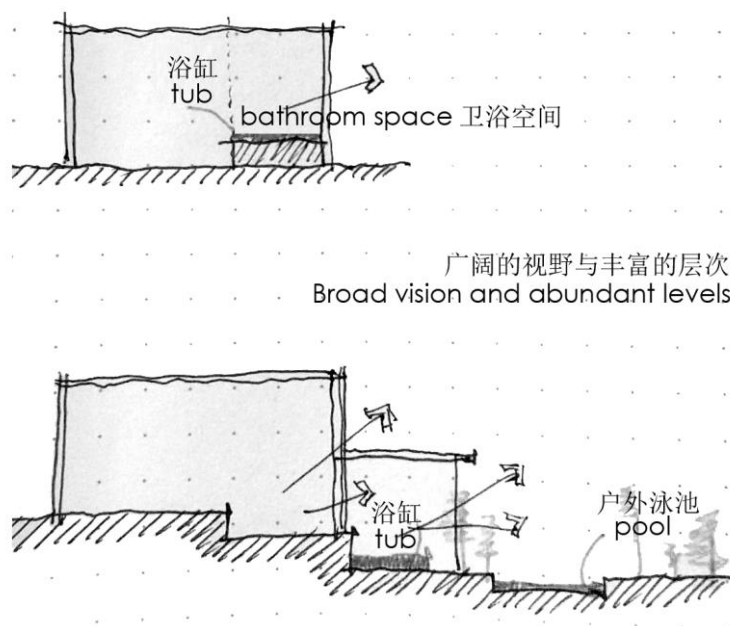
Fuzzy bathroom space, mainly for the division of public space and private space, and upscale bathroom space fuzzy design divide space into the public and private space

transition state space, semi-private space, to the conflict between public and private space resolution transition interface, efficient frontier full use and create a variety of activities, divide the domain level, on one hand the guests aware of conversion space, clear the space belongs to the public or private space, semi-public and semi-private space, on the other hand, also pay attention to the relationship between intensity and spatial properties of separated boundary forms, for example, can use the steps, or wall. Upscale bathroom design use architectural elements to create semi-public space or semi-private space segmentation. And high quality bathroom space of illicit close space, is the pursuit of the open secret. For example, the bathroom space design of innhouse in Kunming province, the design of a more intense sense of privacy has more vision and mind open for visitors to experience. People will experience more than self-control mechanism when they have a private space, the private space is the real need of people's lives, if they have a private space, they will reduce a lot of social pressure. Therefore, high quality bathroom space to attempt more innovation in the design of space boundary.

4) Fuzzy boundary element:

Water, plant, grille, lamp posts, steps, they all both distinguish space and fuzzy space. Such as water, is to limit the route for spiritual sense of privacy constraints. It does not give the guests caused "rejected" depression or alienation, but as the moving endpoint with water, for the guests to get more comfort and inspiration. At the same time people got contented sense of distance and personal feeling, inadvertently done natural conversion field space.

2. New concept of creative space: multiple levels



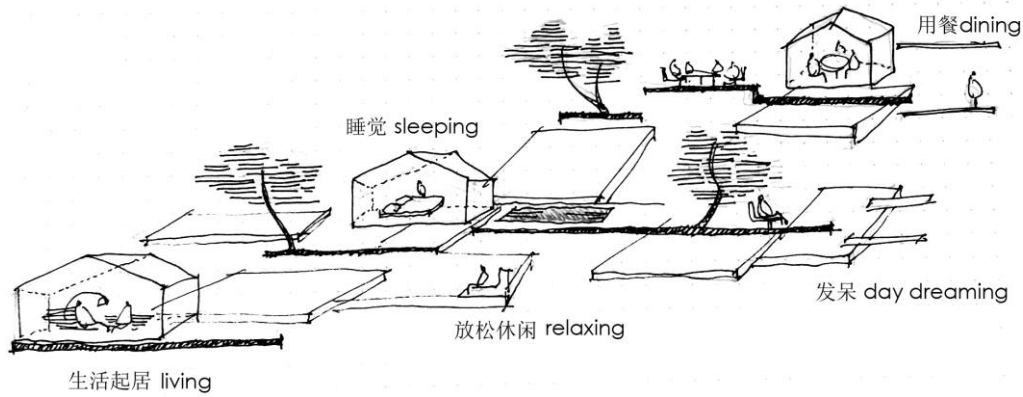


Fig.3-34 Bathroom space design-Multilevel diagram

1) Definition of space level:

Multi-level in upscale bathroom space, can not only refers to the space level of diversity, but also refers that through multiple functions, such as bathroom and yoga space is connected, will be extended to wellness and health leisure system philosophy, thus, upscale bathroom space is not only leisure health system's core, it is the transition of sports and fitness space.

2) Walking and staying:

In order to avoid spatial chaos, it is necessary to sort out when to walk and when to stop. Moving on different altitude of the path to bathing give people the feeling of ceremony and bathing become a respected behavior. Different levels bring people variety of visual experience. For example, when the bathtub fully into the ground on ground level, the ground is the table, the feeling of space view is completely different, and different from the past experience.

3) The advantage of setting levels:

Division of space level, in addition to give a person the experience of innovation with sight and sensory, the design of bathroom space level bring plenty of sunshine to bathroom. And overturns the traditional characteristics of dark toilet block, greatly increased the building and outdoor interface, also helps to create an atmosphere of interior space of nature, leisure, and good for ventilation design at the same time.

3. Strong relationship with landscape.

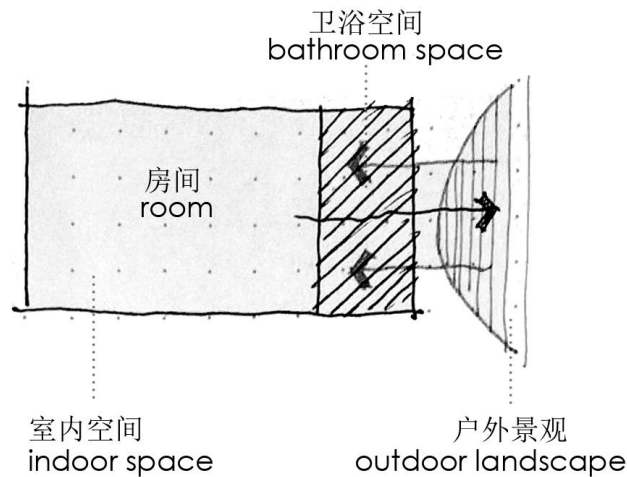


Fig.3-35 Bathroom space design-Landscape interaction diagram

1) Interactive with landscape:

The natural environment provides the resources, energy, time and space for human activities. Relationship between building and natural environment, is to create the environment factor, fusion of natural conditions of building environment. Through the resort are in contact with the layout and the natural environment, discuss the bathroom space as the transition elements of nature landscape and interior room, promote interaction between people and the natural feeling. The needs of human behavior by modifying the natural aesthetics, with the bathroom design. Nature has a natural advantage for the shaping of leisure, recreation resources environment design is important. The human, spiritual level of artistic conception into the bathroom space communication mode of life, not only do not over-disturbed nature but also to eliminate barriers between man and nature, in artificial space still can deep experience and interaction of the natural environment.

By creating a natural landscape, bathroom is defined as the transition elements for people to communicate with nature, give people the illusion of being in mountains. The integration of water space, creating a continuous stretch of water space boundaries - does not cause the efficient frontier of conflict. The border, of course, is relative. Levels feeling of the water space and the sight design are the key point of design.

It should also pay attention to reduce energy waste, such as Soneva resort's material choosing, designers use local waste and sustainable wood, but produced a retro texture and time vicissitudes of life, Evason Earth Spa use cold deep water to solve the problem of air conditioning. The use of leisure space in the native plants and natural materials is

easier for people to understand, and to deepen the regional culture of spiritual experience.

In addition, high quality bathroom space should break through the shackles of landscape Tradition Hotel rooms in interaction design, each room is a fully relaxed entertainment space, environmental design and can be carried out in water environment. The indoor leisure space integration, the bathroom space into leisure unit, and integrate the design into a leisure system. Such as flora Resort Villa room bathroom space design, in the standard treatment, maximize the use of sea view framework design. The bathroom, bedroom, balcony, spa, swimming pool in a whole leisure unit, will be living room as a connecting body two sets of leisure unit. In the material processing, the surface of exposed concrete, natural stone, wood flooring and wooden ceiling unified coordination, and with a light grey walls, wood color ware. And for the use of water, the whole building block in landscape water in the pool, double bed in indoor bathroom between spa space and outdoor swimming pool, harbour view design to maximize the impact of human visual, as have the whole ocean. Outdoor swimming pool has ozone purification system, waste water and rainwater collection system. In the lighting design, APLD lighting design elements for the firm concept "deviation from the wall", "roof", let a person feel buildings such as sprouting and blooming in the sun feeling, bathroom space, open windows can receive natural light. Introduced in the landscape, the rooms and bathroom space in the outdoor swimming pool and the sea, extending to the indoor space flow is to be cured ocean through physical and mental.



Fig.3-36 Outdoor swimming pool in Casa de la Flora Resort



Fig.3-37 Bathroom of guest room in Casa dela Flora Resort

2) Centralized and decentralized of landscape layout:

The natural texture of the material always give people good feelings, durability and health, thus also suitable for use in wet rooms, landscape infiltration at the same time, open the bathroom environment, but also improve the natural ventilation bathroom, to speed up the drying speed of moist room.

In connection with the layout with the natural environment, can be roughly divided into centralized and decentralized in two ways: centralized landscape layout of each health leisure space around the landscape environment and unified into a whole leisure system, all space shared center landscape interface; decentralized landscape layout is every bath environment embellishment the landscape elements, landscape is introduced, the mutual penetration and use of natural materials, make over the natural smooth and natural landscape and interior space, harmony and unity.

3) Philosophy of less:

The design idea of minimalism, adopted the technique China garden "borrowed landscape", skillfully handling delicate relationship between landscape and architectural space, the "blank" art into the bath space design. Let the bathroom space can breathe like the skin. Minimalist design summarizes the essence of generation bath leisure space of natural light. At the same time will slow living spirit to introduce guests - resort to persistent fatigue in pursuit of speed and people for playback in slow pace of mind, clear your mind. To quiet, gentle, humble heart, try more to enjoy the natural space, immersed in nature, talking in a water bath. Leaching of spring flowers bath in the bathroom space, listen to a

summer stream, enjoy the autumn moon, basking in the sunshine in the winter. The capture time space and natural artistic conception, the Taoist View of life in the natural thawing and experience of space, let tourists gladly.

For example, bathroom space design of ONSEN PAPAQA in Taiwan is concise, vivid. Transition materials through indoor and outdoor decoration transition, rooms and bathroom space transition, bathroom space and furniture, make the space atmosphere reached a clever and continuity, to maximize meet people and nature com. nature. Bathroom space and the natural landscape join together, the bathroom space located between the delicate room space and outdoor natural landscape, which give people the feeling alone in natural environment. In the material processing, extensive use of Taiwan's famous wood, the design concept of time aesthetics into wood's material texture, bathroom space design and natural zero conflict.



Fig.3-38 Bathroom in Taianguanzhi Spring spa

3.3.2 Layout reorganization

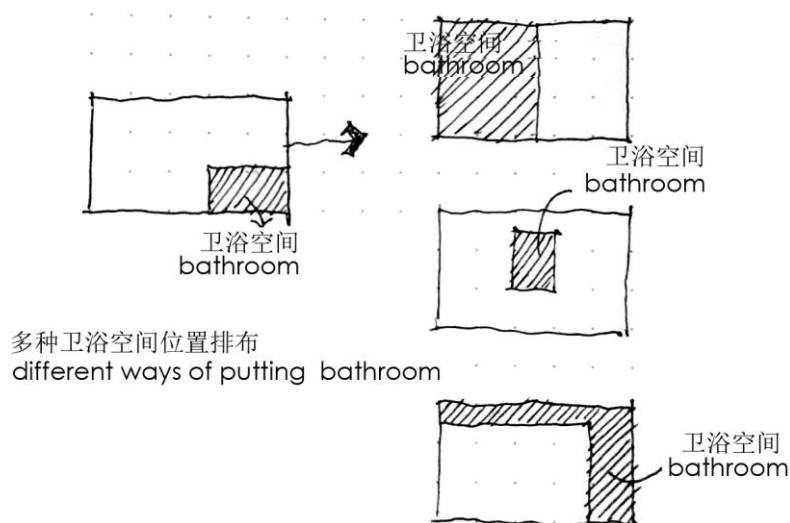


Fig.3-39 Bathroom space design-Layout reorganization

Bathroom space layout redefined: people no longer sitting on the sofa, enjoy the scenery outside the window, but lying experience nature in the massage bathtub or Spa in the water, watching the sunset and moon, from only visual shock to the visual and skin relaxed.

Space usage including privacy, field type, personal space, the distance between people, communication etc. Upscale bathroom space layout reorganization, is adjusted and exploration of space layout planning due to rethink for space using. Generally divided into the following four aspects to complete reset layout:

1 Scale planning:

In the environmental psychology, the architect's goal is to try to provide adequate privacy for each individual, to achieve this goal, and not only to build more area, to ensure that everyone has a separate space. Privacy means on others closed at the same time, but also keep the possibility open to others².

In the cognitive and personal space environment, space with the artificial center was full of meaning. In the research of study space, it is necessary to consider the human scale, between the person and the construction of distance, the spatial dependent (spatial masking), movement space and the stagnation space, space and space feeling³.

Because of scale effect on upscale bathroom space is usually combined with other function of leisure space, turning and scale change path is to create more situational

²徐磊青, 杨公侠. 环境心理学[M]. 上海: 同济大学出版社, 2006. 第 84 页.

³刘先觉. 建筑思潮与流派[M]. 北京: 中国建筑工业出版社, 1999. 第 145 页.

experience of the sense of space, for the dramatic and interesting. But the innovation scale reset, give a person the line of sight of surprise, leading to touch the soul.

2. Area ratio:

Scale planning of upscale bathroom, not in the standard area requirements, design the maximum for the users to add, semi fixed elements left the room, can give a person with true, a relaxing holiday consumption, sufficient time and space. Spatial extension and exaggerated proportions also brings a variety of materials.

The Aetherea spa in Milan is a good example of planning and interior space volume definition. The health & Wellness concept unified Home Furnishing spa in the wonderful micro bathroom space. The proportion of bathroom and bedroom even reached 6:1, re-exploration to the room layout, bedroom and bathroom space swap roles. The scale, size and proportion of inversion in the traditional sense of the bathroom and bedroom space of the bedroom layout, only a double bed in the relative privacy corner, while the remaining open space all the way to bath leisure area: including sauna rooms, spa, shower room, massage bathtub, stove, sanitary ware, or even give a bedroom become affiliated lounge bathroom leisure system feeling. No wall segmentation in different functional areas of bathroom space, but the height difference to divide space exploration, new interpretation of contemporary flow bathroom space.



Fig. 3-40 Bathing space in Aetherea concept Spa

3. Functional reorganization:

Bath space and other function room space with interchangeable opening and closure, give people a kind of different life experience from the past way. Function reorganization also lead to changes in different spatial location function, typically the bathroom space is often arranged in or near the corner of the entrance, normal bathroom space compare with room space, is in the secondary position to be forgotten, but in upscale bathroom space design, it is no longer the conventional configuration of the negative corner or the edge position, but in the leisure space center, because of high quality bathroom space itself is for people to participate in the landscape space. The bathroom itself as the landscape, in the bath, and directly face the natural landscape, thus weakening the orthodox and regular guest room space. The terrace is the transition space room internal space and the external environment, the room is extended to the natural environment of the media, the bathing pool on the terrace, which enriches the terrace use function, bound and liberated the tub to the wet space. Private Spa, private swimming pools and water interactive features, and is one of the factors that contributed to the high quality bathroom space layout reorganization.

For example, such as the bathroom space in water house designed by Neri & Hu design and Research Office. Designers reset the relationship between the bedroom and bathroom space, it is different from the traditional design method, try vision and experience the unique feeling, to public and private conversation. Public and private bathroom space to understand the anti-peep, peep and, all free, zero bound. Bath and self-cultivation, alternately, the bathtub is embedded in the glass box, placed in the central room, as if to show the bathroom products is not only the necessities of life, is also the space of display art. For scale, layout reconstruction room space, the bathroom and washing area connected to design desk. For the material processing, material design technique using contrast and conflict, the rough stone and delicate white walls contrast transfer. Unified light grey and white bathroom space and room the overall color tone. Indoor space only water - bath space, in the room the central glass body, shared natural lighting and other function spaces. No natural vegetation as vision focus landscape, the bathroom is the landscape of the whole room.



Fig. 3-41 Bathing space in Waterhouse boutique hotel

3.3.3 Emotional scenario experience

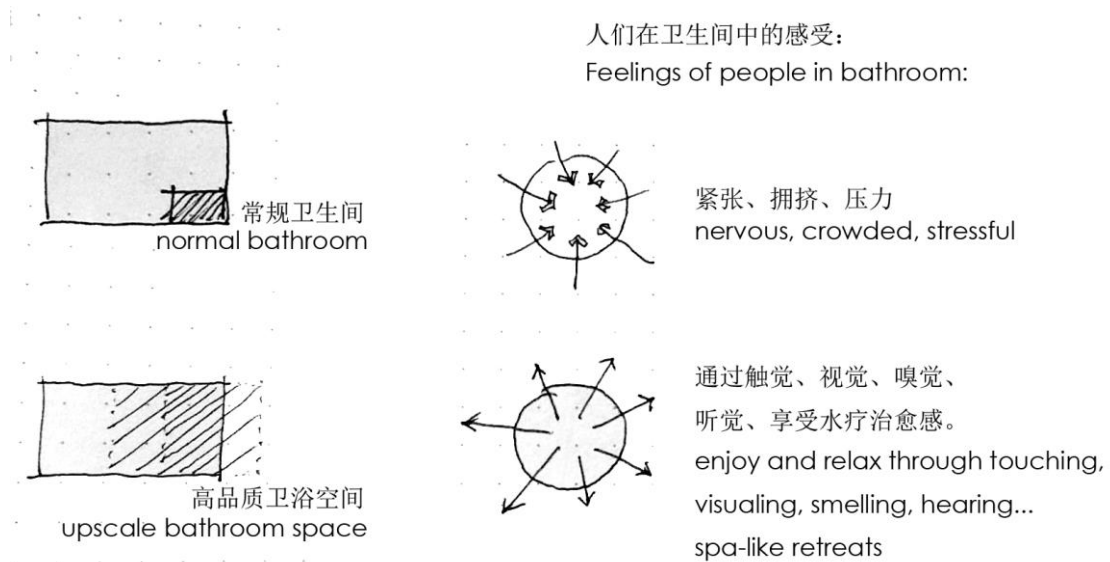


Fig. 3-42 Bathroom space design-Emotional experience design diagram

Emotional experience design in upscale bathroom space is formed to enhance the interactive between people and water. Bathroom space is developing into wellness home

spa space, which cares more about the emotional relationship between a person and sanitary environment. Emotional is easier to let people naturally experience, because certain scene always with certain emotional memory cues and emotional resonance. And experience is that a person's emotional, physical, spiritual reaches a certain level, the consciousness of a kind of good feeling, to the theme of the existing experience and knowledge, the role of penetration, and guide the theme from the objective to the scene, the artistic conception, feeling the three stages of scene experience. Design in the era of experience economy, more and more the pursuit of "a without purpose, unpredictable and unable to accurately measure the lyrical value", the experience is becoming a new source of value. One experience in space mainly includes sensory experience, emotional experience, and physical function. These three aspects means three levels of experience, which is a kind of progressive, gradation, and interaction progress, and complement each other. People in the space enjoying tasting, hearing, smelling, seeing, touching, that's different from the past experience of feelings. People's demanding for service quality and brand, the environment, the emotional needs of the products is higher and higher. And so do relax and rest space especially upscale bathroom.

1. Highlight key emotional theme

In order to emphasize specific experience, emotional experience design in upscale bathroom space always designed as pure and simple as possible. In order to highlight the key themes, the atmosphere will be interested in weakening the other spatial perception factors, and try to let design enrich the senses in order to meet people's emotional demands. With the appropriate emotion echoes the elements and proper fit, offers a variety of emotional choices for people, inspire people to experience the fusion, memory, such as surprise, fun, interactive, a sense of belonging, proud, relax, moved, fresh. As the aromatic experience pool (Fig. 3-49)in Vals hot springs, Peter Zumthor simplify the spatial texture design, weakening the disturbance elements, focus on the surface of the water and the air at the junction, the interface layout a variety of situational experience levels: light, water wave, petals, aromatic, color, and the sound of water hitting walls, and the interface is at the junction between human and water, so exposure to them, people tend to focus on the characteristics of the interface while the ceiling and walls on the top is weakening to the dark without light.

2. Refining, simplify the completion of space design:

Emotional experience design in upscale bathroom space always give people expansion infinite daydream space, not care much about the pursuit of completeness,

because void, empty, less or blank means more for thinking and relaxing. For example, classical, realist painting depicting the very fine realistic, but what people read is the scenes painted, while abstract painting without the pursuit of detail and realism, but gives more space for imagination, stimulate spiritual experience and creativity for people, as if they present more information and scenes. Similarly, emotional experience bathroom leisure space, due to leave void and pure space to stimulate people's thinking, leaving lots of space for the emotional, expand the time and space cognition and to relax the experience, to realize spatial self-development.

3. Scenario experience research in Therme Vals:

The best example of emotional experience design is the famous architectural master Peter Zumthor's Therme Vals design. These following aspects present the emotional experience in it:

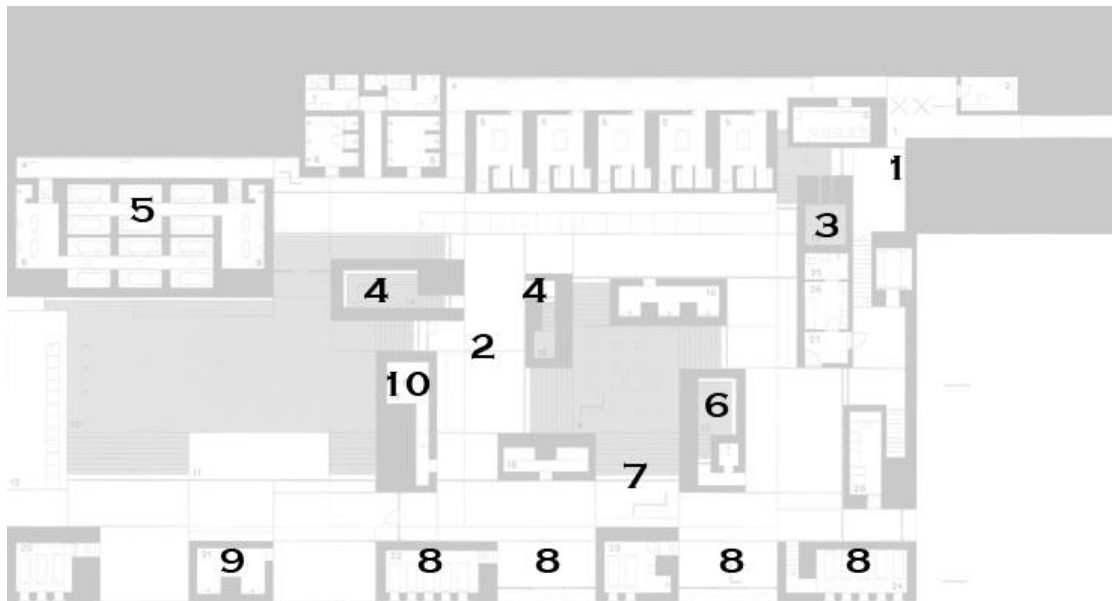
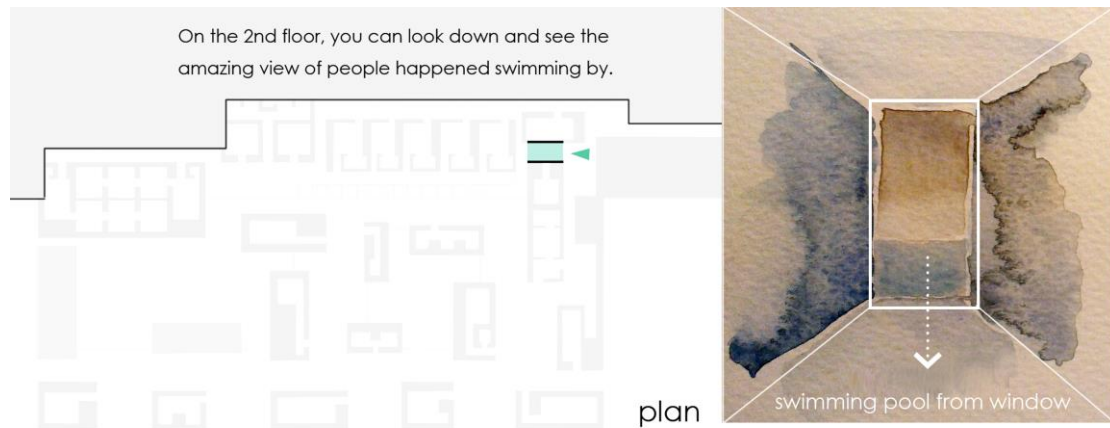


Fig. 3-43 Position corresponds to the emotional experience research step in Therme Vals

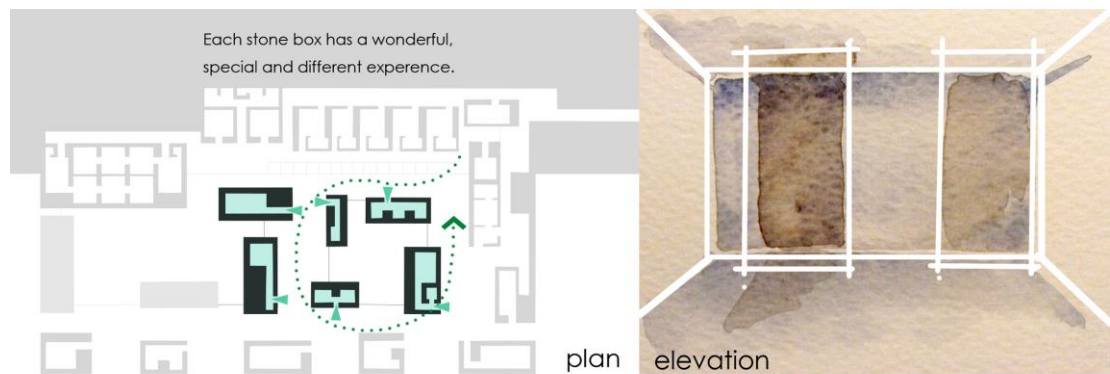
1) The landscape view of the entrance is designed random and dynamic. (Little baby swimming passing by) situations often gives a greater sense of rendering a sense of pleasure , relaxation adds to the fun .



入口处视线对景为窗后的泳池：而泳池中恰巧游过的客人，将对景动态化、随机化。

Fig.3-44 Diagram of random and dynamic emotional experience entrance design

2) Emotional experience design highlights the interesting experience of space design, leading people eager to explore the wellness bathing space. People are curious to explore the function of each small stone box. On the functional layout reorganization, the mysterious and interesting features hidden in a closed box space, which breaks the shackles of conventional functional space.



每一个石盒子里有着不同的空间情境体验，供人们探索、发现。

立面看上去完全不清楚盒子内部空间藏着怎样的功能，从而引发人们的好奇心，渲染空间情境的趣味性。

Fig.3-45 Explore emotional experience entrance design

3) The path through emotional experience space is always interesting, such as the wind sound pool in Therme Vals, rough sound-absorbing stone weakening the people's voice, but it strengthen the voice of the wind outdoors, people swim and flow with the direction of water and to the sound box, as if they flow into a container where filled with the sound of wind. People staying and feeling the sound experience, it leads to the highest participation between water and sense. This design approach broadens the material

features, and use material as an acoustic instrument. Compare with aromatic pool: One is to strengthen people's whispering, the other is to weaken the volume of human conversation.



Fig.3-46 Sound pool experience

4) For the temperature experience design, color can be used to render the atmosphere, such as 14°C blue ice space experience and 42°C orange fire space experience in Therme Vals, that give people double opposite experience. As to the outdoor spa pool, soaking in hot water but the head feel fresh falling snow and cold wind; while back indoor pool is heated in warm air around head but the body feel the cool air thermal, which brings heart and soul of alternating cold and warm perception.

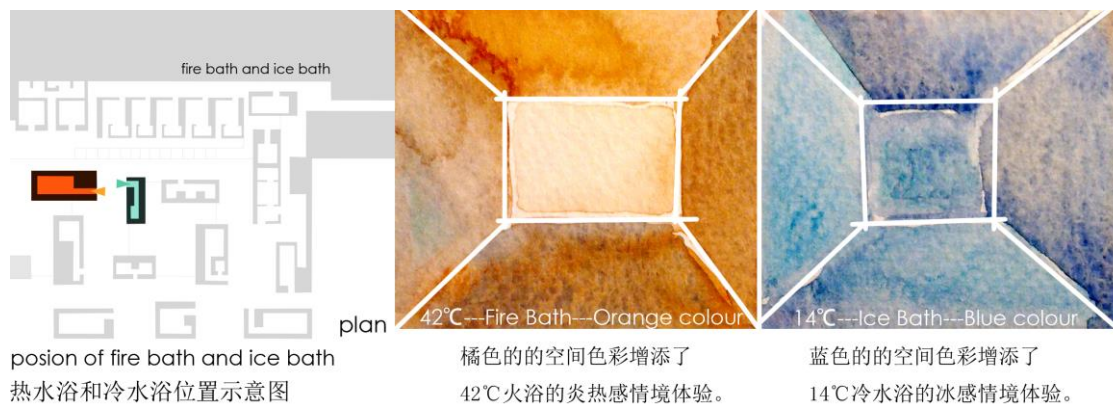


Fig.3-47 Hot and cold bathing experience

5) Steam bath is good for creating mysterious atmosphere to wellness space, the indoor moisture will create a hazy sense of dreams, and Vals steam bathroom and bath appliances small package of a room is only black stone, lying down on a black stone benches can see the warm yellow lights on the ceiling through steam and shot down, that became the focus of visual. People feel like being in a dark boundless universe, and that the beam of light is even more ethereal dreamy and give the feeling of unreal illusion.

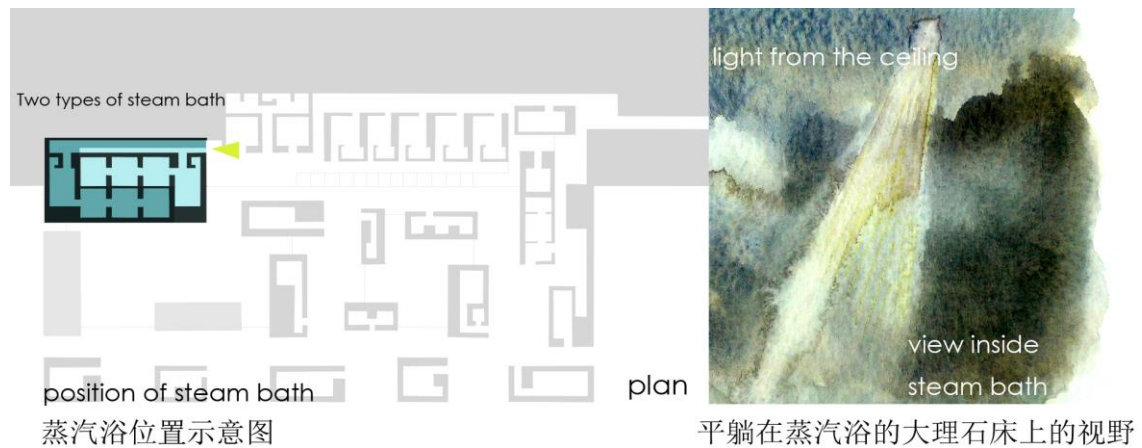


Fig.3-48 Steam bath experience

6) Space emotional experience focus on highlight the emotional elements of the scene, so it should be intentionally weaken interference elements. Take Therme Vals as a good example, in its aromatic pool, designer emphasizing the sense of smelling and hearing while weakening the ceiling design, and painted that into pure black and no light sets on the ceiling. So people focus on water waves, sounds and smell. Inside the fragrant roses pool, hearing, smell, touch, sight all had a breakthrough: Hearing, through a special way to deal with the placement of stone, and through high interior space, amplifying the human voice, giving a sense of experience in the caves in the conversation; enlarged sounds that water beat the wall like the sound of the waves hit the rocks, giving exposure to experience a sense of the soaking in the sea; Smell, the pool filled with fragrant flowers, giving flowers to people revel in the experience; Touch, to extend water experience, as well as the petals touches; Vision, when eyes closed : Feel the hearing, smell, touch brings fantasy ; when open eyes : As set underwater lighting , water mapping to the wall , showing a sparkling textures, three-dimensional tactile experience of water while enjoying the water -dimensional illusion, so rendering the atmosphere, giving a sense of gentle and comfortable experience.



Fig.3-49 Aromatic bath experience

7) For the treatment of light: light through structural gaps pouring down poetically, add divinity to space.

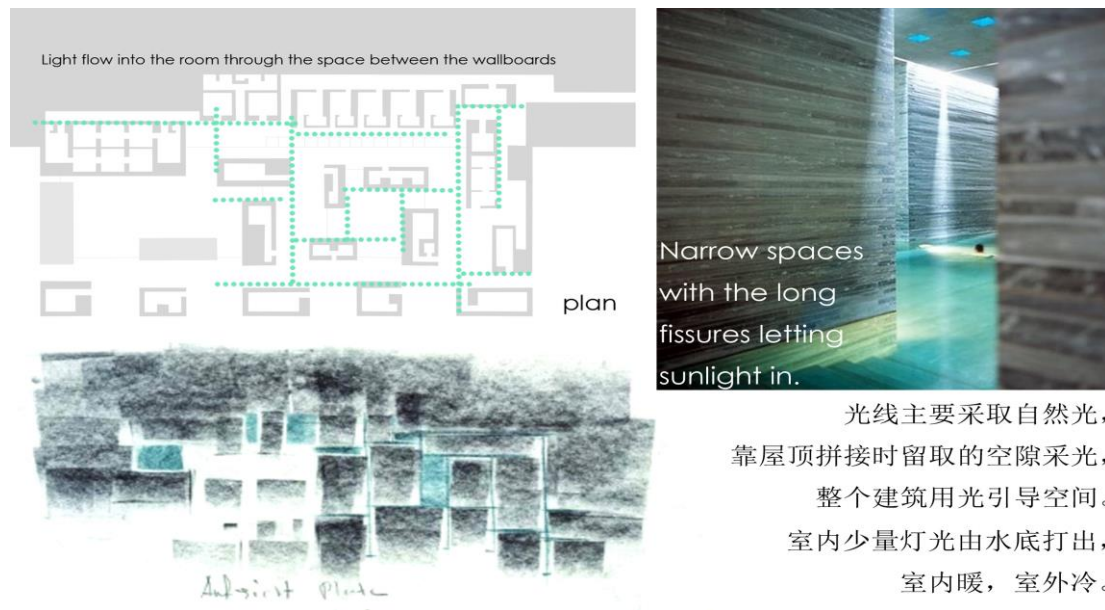


Fig.3-50 Lighting experience design

8) Windows in resting place are also a poetic contrast: large space for transparent view window with the scale of entire glass surface of the wall, sweeping landscape outside the window; while walls in quiet little lounge scattered neat little window, the scenery from the window like a bundle of fragments on the landscape of the story. Also, the entire small lounge is black, which won't bother people to rest in peace.

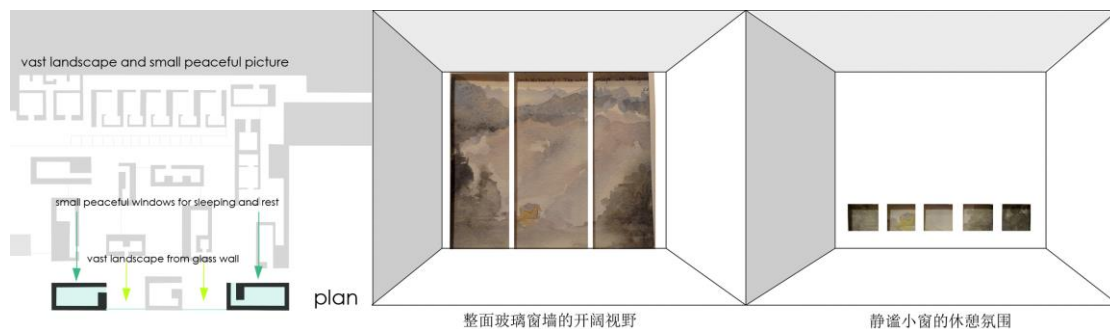


Fig.3-51 Compared design of the window at rest area

9) Around the dark walls, only a bunch of bright lights shot down from the top of the shower, water spray as diamond-like pieces, and became the focus of visual and tactile, as if bathed in jeweled between emotional experience.

10) A functional box for drinking water extend the interaction between people and water, water tank design also filled with a sense of narrative and plot, giving the feeling of mineral water flow through the heart and soul, which refresh feelings.

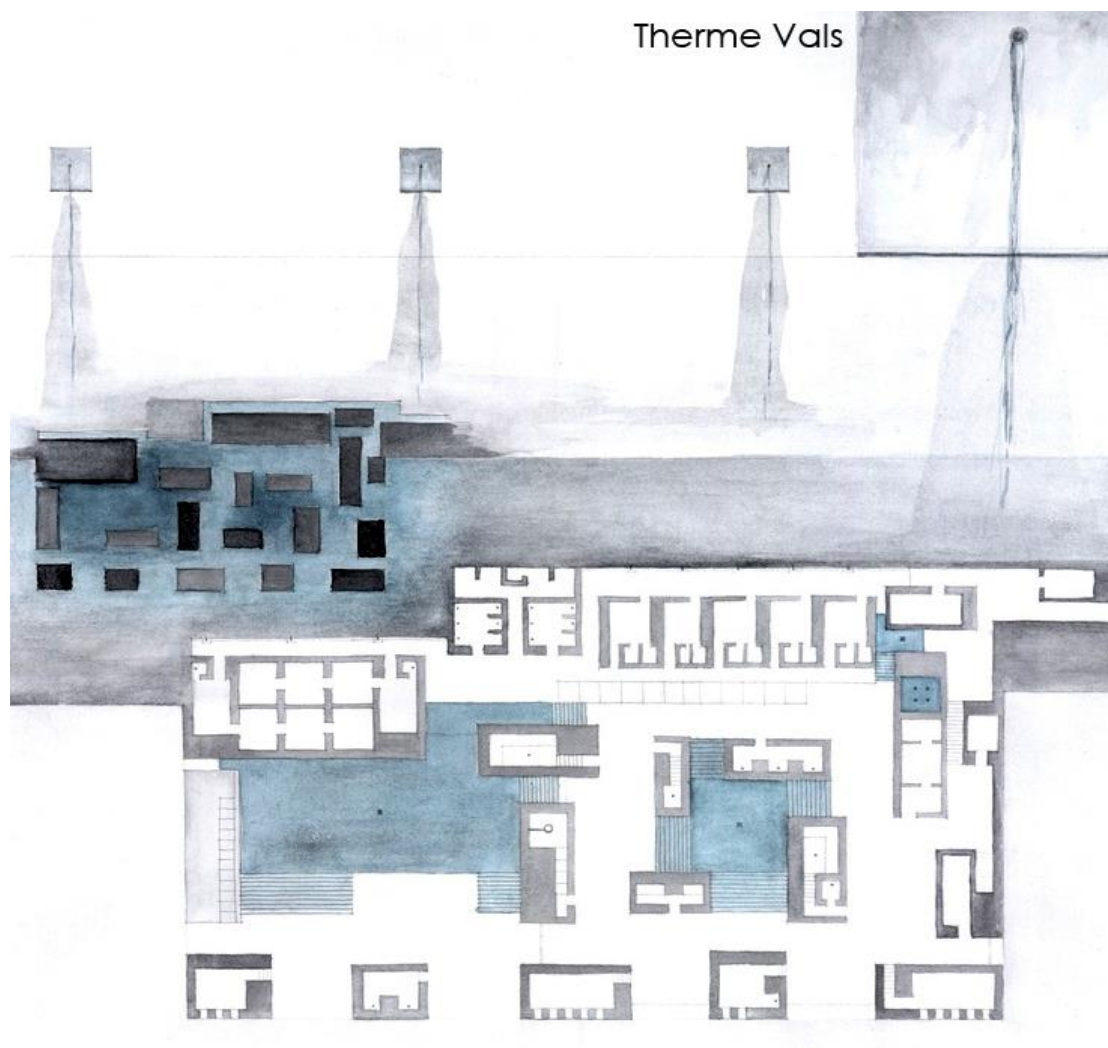


Fig.3-52 Bathroom space design—Emotional experience in Therme Vals

Part3 Summary: meditation space, spatial degrees of freedom, family bath center, multi-functional bathing space.

Upscale bathroom space (home spa) is becoming the main space in room design. This chapter attempts to redefine the design direction of upscale bathroom design on architectural level, through case study and inductive, introduce people who trapped in the depth of urbanization to alleviate the pressure of the new style, leading people breakthrough the limitation of traditional bathroom function design. For the traditional reference, it is the charm of oriental unique to dissolve into the contemporary space that defend bath, the bath brush, synesthesia in invisible. In addition, in recent years, the focus on bathroom design changes from itself and layout to aesthetic subject---people and their living experience. That is, namely the orientation of aesthetic from the object to the subject, and on the design method of emotional design, there is still a huge development space, the role of the emotional analysis should be highlighted, to create a romantic, the leisure, comfortable, indifferent hidden atmosphere based on the theme of leisure culture. And introduce the sanitary emotional appeal of new era: pay attention to the psychological needs of users, the emotional is blended among them; bathroom space design will be more humanization and more interesting.

Part4 The principle of upscale bathroom design

4.1 Space layout

The layout design of home spa space start from the concept of slow life, re-explore the method of bathroom space and layout design, seeking innovative expression of function and space. It is different from the way we use before, upscale bathroom is designed from inside to outside, and extend the interior atmosphere to outside with landscape such as water and plants. Reorganize different function space, without strict partition walls, and divide space with different layers and altitude. Increase the comfort of the bathroom, sedate feeling and flow of feeling through an extension of the visual and tactile sense of expansion, and make people mentally feel infinite space, so as to achieve a deep leisure.

1. The relationships between upscale bathroom and its surrounding space: compatibility, connected, scattered.

1) Compatible: means subtraction - to design upscale bathroom space as a whole flowing wellness space.

Upscale bathroom space design is no longer isolated from other functional space; it often designs with other functional space coherently. Furniture, bathroom, sanitary ware, and bed are all integrated and unified together. For example, the guest rooms design on the 7th floor in "Puerta America Hotel", in the creation process, can be completely designed without the limit of materials, techniques, products and space. Bathroom, desk, wardrobe and bed are designed together, or no compartment, no door, people can move freely in personality space. Place oneself among them, like in the game space between creation and walk. People forget the position in bathroom space, but enjoying in the leisure entertainment space. Although the atmosphere in this bathroom space is not leisure and health bathing space environment or full of tension and excitement of avant-garde space, but in the spatial layout design, the entire bathroom space and the whole room is a coherence design planning and worth learning. In addition, the first floor of this hotel rooms is designed by Zaha Hadid, bathrooms and rooms designed like a whole flowing system.



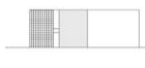

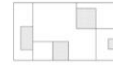

2) Connected: means addition-to added special space.

In order to bring leisure space to people, upscale bathroom design open up the space

that defend bath and often set up in the bath area features recreational space, or spa relaxing space, paddle or entertainment space, or outdoor hot spring pools, etc. Such as the bathroom in Garden Terrace Miyazaki resort and hotel, it designed meditation space in outdoor balcony for people to calm down, increasing the surface area of the bathroom space, and expand the function of the room space.

3) Scattered: space inversion

Considering the relationship between permeability to meet the prerequisite entrance hall, bathroom space, rest area and outdoor landscape in the overall layout, space replacement different function room, line of sight, sensory, bring new experiences, explore the space of interesting experience. To achieve maximum water interactions with people: not only bathing in water, all the daily life can be done in the water, such as dining, entertainment, rest, exercise, read a book, writing, working party in the water.....

Relationship	Graphic	Function of surrounding space	Contact with the surrounding space	Examples
Compatible	Section layout. 	Sitting room, bedroom.	Subtraction: coherent with the surrounding space.	
Connected	Section layout. 	Landscape, half outdoor courtyard.	Add: add characteristic space.	
Scattered	Plan layout. 	Room or area of any function, such as study, restaurant, sitting room, bedroom and landscape.	Inversion: role exchanges with locations and functions of the surrounding function spaces.	










Household space
 Bathroom space


Tab.4-1 Relationship of upscale bathroom space and the surrounding space

2. Position of upscale bathroom in the room:

The position of upscale bathroom space in the room should be flexible, often compressed in comparison with the space (space of interesting experience) design, create different feelings and other functional regions of space, the sight of variety experience, also deepen the sense of ritual bathing. Adjusted according to the spatial layout of the entire room, its position in the layout can be divided into the central (became the visual focus), around (connected the best landscape), peripheral (indoor and outdoor transition point); out of the ground is divided into convex in profile layout (ceremonial bath

feeling experience), and the ground is flat (bath field the broad sense). Form 4-2 is the specific analysis.

Analysis/ location	Graphic	Advantages	Disadvantages	Disadvantage improvements	examples
In the central	Plan layout 	Contribute to continuous interaction of the bedroom spaces and other recreational function spaces.	A lack of privacy, an inefficiency of natural lighting and ventilation.	Blur bathroom function, and use the surrounding function spaces to light and ventilate.	
At around	Plan layout 	To guarantee the complete set of bathroom system in the best position, as an indoor and outdoor transition gray space, with the best view, lighting and ventilation.	The bedroom privacy is broken.	Include bedroom into the bathroom leisure health system. Use soft fabric or shelter of indoor vegetations to enclose the sleeping space.	
In the surrounding	Plan layout 	Keep close connections with the outdoors; Lighting and ventilation effects work well; Extent sight effect of indoor and outdoor to each other.	Other functional spaces do not get the best position.	Blur bathroom function; Integrated design the bathroom space with bedroom, sitting room and the like to share the lighting.	
Flat with the ground	Section layout. 	A barrier-free design without protrusions; a coherent space, for the table is the ground.	Require a high quality of construction details, which should be considered in advance during the architectural design level.	Reserve spaces in architectural design; Strict requirements for selection of bathtub sizes.	
Protrudes from the ground	Section layout. 	Break up the space with altitude difference and levels, to increase space flowing feelings and interests.	A lack of consideration of barrier-free design, which reduces the safety factor of the old and the child.	Add presentations at the ramps, fences and space turning points.	



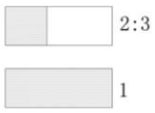
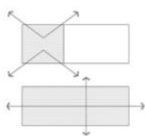

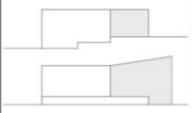
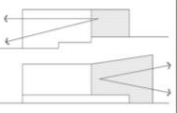

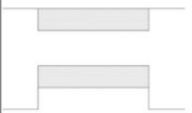


Tab.4-2 Location of upscale bathroom space in the house

4.2 Scale processing

High quality bathroom space make many attempts in spatial scale processing, upscale bathroom space is no longer a standard area limitations, users prefer to relax in “empty” space, and in a variety of ways to enjoy leisure and relaxing. In order to give people the feeling of novelty that can try to scale relationship is completely different from the traditional meaning of bathroom space, such as bathing leisure space area in Alila Bali Island resort hotel room is ten times larger than its bedroom space, scale design which out of the ordinary, brings people greater sensory impact.

When the bathroom area is small, it can be designed without setting partition, through elevation and landscape level processing, screen, and the surrounding space merging brought spacious and comfortable feeling for the bathroom space. Such as innhouse hotel's bathroom space is not big, but the designers dispersed it into four bathroom unit, each unit has a wonderful view of the highest state, and get a perfect private open space, which has a vast landscape without disturbing.

Table 4-3 summarizes the upscale bathroom space in the size, height, height of the bath tub and other aspects of the scale processing.

Relationship	Graphic	Proportional relationship with surrounding space	Corresponding sight experience	examples
Room size of advanced bathroom	Plane dimensions. 	Area ratio of advanced bathroom to bedroom, sitting room and the other function rooms is from 2:3 to 1. That is to say all the function rooms can be connected to the bathroom, to form a leisure health system.	Plane dimensions. 	
Room height of advanced bathroom	Cross-section dimensions. 	Height of advanced bathroom is usually designed higher or lower than the other function rooms, as a hint from other function rooms.	Cross-section dimensions. 	
Bathtub height of advanced bathroom	Cross-section dimensions. 	Room bathtub of advanced bathroom is either embedded in the ground to keep a same height and continue space function continuity, or independently, freely decorated in any position with a slightly higher, to make a visual focus.	Cross-section dimensions. 	

Household space
 Bathroom space

Tab.4-3 Dimension processing of upscale bathroom space

4.3 Material and color


Material and color design of upscale bathroom space emphasized: the same color with different material; Similar textures with different material; The same material with different color; Same texture and same color; The same material with different skin texture, in order to achieve consistent and harmonious atmosphere of whole space, like one integrated mass.

1. Material processing:

Material is used as the most direct and effective elements to shape the artistic conception of space. The simple lines and natural materials, give people a kind of quiet environment like they are at home, a sense of belonging to the natural space for contemplation. For the use of materials of high quality bathroom space, there are higher requirements on the texture and tactility, even re design the material texture, material itself with varied texture and color are more easily perceived by the people than just space. Therefore, the performance of the materials with detail design has become a new design idea and method. It is necessary to combination art and technology, through the symbol and time of strengthening and changing materials, to render the regional culture. Design and use of local natural materials and green building materials to obtain raw material locally, to get thr feeling of returning to nature, away from the hustle and bustle of feeling. Of course, material design also includes a variety of innovative use of same material, unified in the similar texture, in order to meet the rich visual and tactile.

For the control of specific material, should be good at using its cultural sense. For example, bamboo, is an old but new building materials, when combined with water, it will strengthen the poetic situation sense, and attention should be paid to bamboo multi is rampant, wood principles less delicate. In addition, the bamboo material with high disposable, a temporary material characteristics, and fit in with other naturalistic elements combination design, give people a low-key and delicate feeling. Upscale bathroom space design and its selection of materials, wood, bamboo, mostly for stone, concrete, glass, mirror etc. The following is a commonly used material of high quality bathroom space is introduced (Figure 4-4). In addition, water as the most close to the bath elements in the human body, directly affect the bath environment for human skin sense experience. Such as Vicky bath, in the case of Taiwan, water full of experience on a wide range of applications. And for the water design, upscale bathroom space is often the water travels process short decoration: let the water after a certain distance, after the realization of its function. The characteristics of texture and water material combination of design, add






appreciation component for the washing process of people simply. Figure4-4 are also analyzed for different materials and water to bring people with experience.

Analysis/ material	Atmosphere rendering	Advantages	Disadvantages	Mechanism	Combination with water	examples
Bamboo	Meditation space of poetic and quiet.	Natural texture, good sense of touch, novel shape, natural and a variety of colors, environmentally friendly, easy to shape and clean.	A fire prevention is needed; poor disassembly and costly feeling.	Beautiful texture; The transverse and longitudinal section have different artistic conception and can be carved out a variety of skin textures.	A strong sense of oriental culture and artistic color.	
Wood	The theme can be highlighted by only one material to the uttermost.	Natural texture, good sense of touch, environmentally friendly, easy to shape and clean.	A fire prevention is needed.	Skin textures changes, the natural beauty can be artfully used.	Comfortable and kind.	
Concrete	Original and simple natural sense.	Both rough feeling and pure feeling; suitable for creating a quiet environment.	Hard, poor cordial degree.	Other material texture can be imitated by concrete. The material texture can be harmonized with the whole bathroom environment.	A sense of calm for both body and mind.	
Stone	Suitable for creating space experience of the cave, space costly feeling of jade and exquisite fashion sense of its own.	Both rough feeling and pure feeling; beautiful textures, durable wear-resisting and easy to clean.	Hard, poor cordial degree and sound absorption.	The material texture is the best decoration, especially the marble.	A sense of elegant and honorable.	
Glass	Suitable for creating room sense of light crystal or mystery and level feelings of frosted glass and glass brick.	Presenting a feeling of frozen water, to expand room feelings and dramatic experience. Pervious to light, adiabatic, sound insulation, fire-proof and acid-resisting.	Easy to dirty, a feeling of dare not to touch, for fear of breaking.	A variety of glass texture, such as printing glass, frosted glass and glass brick.	A sense of light and smart.	
Mirror	Pursuit of stimulation of dramatic space.	Room sense of the bathroom can be expanded, to create an interesting space.	Poor sound absorption, easy to cause space confusion sense and make dizzy.	Completely mirror and mirror with different colors.	A sense of vast and quiet.	
Fabric	A loosen feeling of soft, warm and homelike.	Good cordial sense, colors and texture can be choose, soft, sound absorption.	A fire retarding treatment is needed.	A strong sense of hand-woven texture, kind and diverse.	A sense of relax and comfort.	

Tab.4-4 Commonly used materials of upscale bathroom space

2. Color processing:

Color design of the bathroom space often with high quality material and texture coordinate with each other, most of the local natural material color are used to show warm rustic relaxed feeling, give a person the sense of zero stress relieving, and not by the color of intense stimulation to attract eyeballs, should try to avoid the use of artificial pigment increased repression of tension. So commonly used wood color, white, concrete color, light gray, green, brown, etc. Color design often together with lighting design consideration at the same time, under the action of natural daylight and artificial light, the color change obviously, material and color design at the same time. The following picture is a high quality color design of the space that defend bath and the surrounding space color relations analysis:

Analysis/ colors	Relationship with the surrounding space colors	Advantages	Disadvantages	example
Plant original color	The surrounding space are plants or the surrounding space colors are wood color, white gray, etc.	A comfortable feeling of the nature, without pressure.	A little too plain, a lack of luxury.	
Wood color	The surrounding space colors are white, light gray, brown, green, etc.	A comfortable feeling of quiet, relax and close to nature.	A little low cool feeling in summer.	
White color	The surrounding space are any colors and materials.	Belong to the joker color; role of expanding space sense; pure, transparent; able to carry the effect of all kinds of light.	A little too monotonous when vastly use for purity of the bathroom; easy to dirty.	
Concrete original color	The surrounding space colors are dark gray stone, wood original color or white.	Belong to the joker color; able to act as background color of green plants and landscape.	A little too rough, hard to clean.	
Light gray	The surrounding space colors are dark gray stone, white, wood color or some other bright colors.	Natural and low for background color; no space depressive feeling and urgency sense; endure dirty.	A little too dim.	

Tab.4-5 Commonly used colors of upscale bathroom space

4.4 Lighting design

The light can be a decoration, to play the role of a rendering context. Natural daylight through some technique can simulate artificial light sources, such as at the top or side window switch to a stained glass window, outdoor natural light through the colored glass can present an artificial color lighting effect has no energy loss.

1. Natural daylight

1. The lighting mode:

Upscale bathroom often connected to the other leisure activities center, because it's the dot eyeball position in interior room and the best place in the vision, so it usually close to the best visual direction and has plenty of sunshine and poetic light design effect; Because of its fully open, it has a good comfortable ventilation. The daylighting of upscale bathroom is not usually side window, but try a variety of different ways of open the window so as to achieve a variety of sight feeling, such as the top window, high side window, the side window, bottom side window, etc. (such as figure 4-6). For the side window design, through the window and add frosted glass shade and other methods to avoid the visual disturb problems.



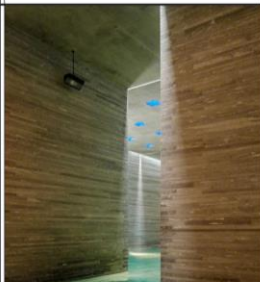
Analysis/relations hip	Graphic	Vision field	Advantages	Disadvantages	example
The top window			Uniform illumination; hard to form a glare; facilitated to ventilate.	Easy to dust, heavy pollution, a little complex structure and hard to clean.	
High side window			Plenty of light is guaranteed, and sight interference between the bathroom and outdoor is avoided.	Hard to clean and a decrease of interaction between people and the outdoor landscape.	
Side window			Simple structure, convenient decoration and the light with obvious directivity are contributed to form a shadow to watch stereoscopic display and the scenery outside, as well as good ventilation.	Hard to clean; the further away from the window, the smaller the intensity of illumination is; bad lighting uniformity	
Bottom side window			To form an interesting slight and luminous environment.	Sight of daily behavior is blocked.	

Tab.4-6 Commonly used lighting of upscale bathroom space

2. Artificial lighting

In order to improve the comfort of life, high-quality lighting design of the bathroom often use light to organize bath space, follow the principles of light is a supporting role to design "a black", because of excessive light rendering, it weakens the quality to relax. Lighting design and emphasize and beautify the role of metope material skin texture, make the atmosphere of harmonious and unified as a whole system. Lighting design to roughly two kinds of processing mode, therefore, is a kind of light which hidden in tectonic node, and the integration of structure, lighting and building integrated design, and give

people the sense with elegant and calm soothing; A bright light, as a focal point of design in visual focus to emphasis on design, apply colors to a drawing atmosphere, create a mystique. And in high quality lighting design mainly adopts hidden within the space that defend bath (that is, to hide the way light rendering implicit space atmosphere), emphasized the way (that is, highlight dot eyeball light as visual focus) and leading light (light used to guide the direction of space) three ways (figure 4-7).

Analysis/ methods	Illuminance	Light color	Form of lamps and lanterns	example
Conceal	Hide the light, diffused lighting by soft lighting uniformly irradiated on the ceiling or lighting system of dome light together with wall lamp.	Usually warm golden, golden yellow.	Usually ceiling lamp, inlay lamp.	
Emphasis	Bright light, moderate illuminance, imitation of the natural daylight.	Warm golden, golden yellow, white.	Usually presented by the form of artwork.	
Guidance	Decorative lighting of point light, linear light, slightly lower illuminance.	Usually warm golden, golden yellow, white. Sometimes cool color light for catering to the whole boot space effect.	Combined with the form of artwork.	

Tab.4-7 Commonly used illuminance of upscale bathroom space

4.5 Landscape design

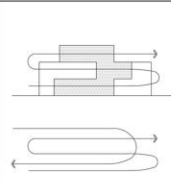

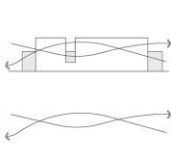

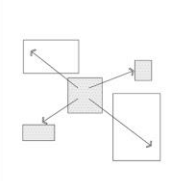

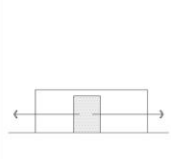

The interactive between landscape and buildings is always important; landscape design in upscale bathroom is also the main point. Plant to be cheerful, often naturally evolved into the frame of the entertainment and communication space. It is also a way of building new life style: bathing near the landscape, the landscape beside the resting area. Cleverly increase the contact surface of bathroom space and outdoor, easy to create an

atmosphere of natural environment and recreational indoor bath. For the design method, it is necessary to introduce landscape into the balcony, door, window and hole.

1. The relationship between upscale bathroom and outdoor environment:

The relationship between high quality bathroom space and outdoor space according to the proximity with nature from high to low is divided into the following four kinds of spatial relations (figure 4 to 8):

Infiltration (natural landscape and the bathroom wellness space merging), flow (natural landscape space and upscale bathroom are cohesion and coherence) be the visual point each other (The natural landscape and bathroom space mutual gaze), Barrier (bathroom not directly related to the natural landscape). The first three methods introduced landscape into bathroom design; the fourth is clever bathroom space design without nature landscape.

Analysis/relationship	Graphic	Characteristics	Advantages	Disadvantages	example
Penetration		Totally harmonious with the natural landscape, an unification of bathroom and outdoor environment.	Good indoor and outdoor landscape, daylighting and ventilation, a variety of interactive leisure patterns for man and the nature.	Only appropriate for design of bathroom space in the south cities, rather than in the north. Too much space open degree weakens the intimate feelings.	
Flow		Transition, sight extension of bathroom and outdoor environment formed by outdoor and half outdoor landscapes.	Act as a transition of bedroom /living room and outdoor landscapes, a natural, smooth and simple design of the bathroom.	Nothing.	
Places		The scenery outside can be considered as sight places when the outdoor scenery is far away and can not be closely touched.	Can form a new method of design starting from view; indoor and outdoor are places for each other.	Interaction of man and the nature is only limited to view level, rather than real contact.	
Obstruction		Any other angle indoor is visual focus of the bathroom.	Contributed to concentration on shaping and innovating space interests indoor.	Slightly lower proximity degree.	

 Household space  Bathroom space

Tab.4-8 Relationship of upscale bathroom space and the outdoors

2. Outdoor landscape design of upscale bathroom:

Because the top-grade resort and houses always located in the beautiful natural environment, the architectural design often melt into nature, emphasizing the continuity of the outdoor space, its core bathroom space also tend to use sustainable aesthetic experience at the the same, and closely connection with nature.





1) The use of water: water as the visual landscape, can be decorated in outdoor, increase the bath leisure space dynamic spirit; water as landscape in which people can participate, should be installed on the outer space landscape balcony, connect indoor and outdoor space.

2) Plants: Can be decorated in the bathroom and separate space; or arranged in the landscape balcony enclose green space.

3) Stone: As indoor and outdoor connection element, Try its variety of texture collage, construction and form with the landscape.

4) Art: Using indoor and outdoor bathing space environment and the elements to create "art".

Can make full use of the dynamic properties of outdoor landscape, such as can record timeliness, save time through the trace, the figurative and abstract and intangible as tangible. Table 4-9 for using water, plant, stone, natural landscape elements such as examples of recording time. They all can be used for expanding the space that defend bath medium, softening bath space atmosphere and calm mood.

Element/ effect	Use of the water	Plants	Stone	Artworks
Innovation process of landscapes --recording time instance				
Innovation process of landscapes --method introduction of recording time	Water can be used to record time for water dispose of outdoor landscape. The trace of water flowing through wall can be considered as specific representation of time: a naturally pattern on wall exits only by the impact of a long period time, which is random and unique. The picture above is an instance of time and water painting at Therme Vals by Peter Zumthor, a world building master.	We can wait for the production created by time and plants, only by placing easel and canvas aside the plants on outdoor balcony of the bathroom space. This is an innovation experience of human caring, which is an anthropomorphic dispose of outdoor landscapes, taking use of passage of time.	The moss on stones after a time filter will bring us a sense of shuttling between time and space, which is an oriental connotation.	1. The location of artworks should be both landscape focus outdoors and sight places indoors. 2. Window frame is decorated in the form of frames, while it is an artwork to record time of season sceneries outdoors. The painting in the frame changes with turn of the seasons, which is dynamic and interesting.




Tab.4-9 Outdoor landscapes of upscale bathroom space

4.6 Furniture and equipment

Furniture is one of the important elements to define space, and often make up the bulk of this space, and is the ornament interior space atmosphere and artistic effect of the important elements, in addition to being practical and decorative supplies, it is with the space environment form an inseparable whole, and can redefine activity and the relationship of the transition space, at the same time in space and one has most close relationship. In the furniture should be elastic and change on the plan arrangement, can reveal different space everywhere taste and unique. So, a complete resort hotel space

performance, except as you can see the beauty of architecture and space design, including furniture, place adorn, even a tiny vessels display, is the place where the space that defend bath style, the furniture is often show the spirit of space. Keep consistent with bath recreational space on the material of furniture, can increase the space integrity, and the integrity of the recreational space, easy to let flow stretch space and gives a person the emotional release more thoroughly. Furniture and art works can help strengthen the theme, the symbol of cultural symbols can be reflected on the furniture and furnishings. To the space that defend bath integral style harmonious and unified, furniture, art and equipment often integrated design, the choice of the material and style is also from belongs to the theme of the bath recreational space artistic conception, sometimes in order to achieve subtraction space effect and furniture fittings integration design.

1. Decorations which commonly used:






Bathing theme elements	Characteristics	example
Display	The displays are usually composed by elements the same with materials in bathroom space, which have emphasized on the use of materials and highlighted bathing environment indoors.	
Artworks	It is the best time to appreciate works of art, when bathing at leisure. Therefore, it counts to decorate artworks in qualified bathroom space.	
Decorations	The bathroom is offering a greater relaxation experience by the collocation of soft fabrics. It is also decorated remarkably by delicate skin care products, physical therapy products and bathing products.	

Tab.4-10 Commonly used artworks of upscale bathroom space

2. Furniture which commonly used:

Furniture is mainly used to create sense of caring and optional sense. Common furniture in upscale bathroom are deck chairs, water bed, outdoor leisure pavilion, a dresser, vanity chair, craft frame cabinet, goods, garment cap library and so on. The boundary of furniture and sanitary are always interface integration design together as a whole system, such as the 4th picture in figure 4-11 , glass with metope of convex body








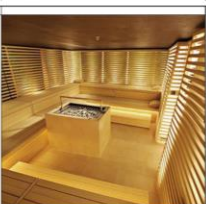







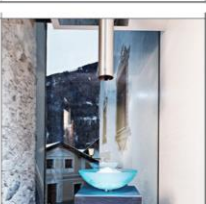
completely in harmony, which has a strong sense of unity.

Analysis/furniture	Advantages	Disadvantages	Location	Arrangement necessity	example
Deck chair	Free positioning, convenient carrying and direct leisure effect.	Can not be acted as an component element of the bathroom planning for its small size; easy to dirty when placed in the outdoor.	Near bathtub, bathing pool and swimming pool.	strong	
Water bed	Interactive experience and interest of man and water are expanded.	Occupying a large space; easy to dirty when placed in the outdoor.	Near seascape and waterscape.	medium	
Outdoor pavilion	Enjoying experience of bedroom outside, also be acted as place of bath area indoor.	Occupying a large space.	Usually located near outdoor swimming pool, acting as visual extension point of bathroom indoor.	strong	
Dresser and vanity chair	Consisting separate elements of bathroom space, which levels are diversiform.	Nothing.	Near toilet area or bathing sanitary fittings.	strong	
Processed frame cabinet	Acting as an artwork when bathing and enjoying outdoor landscape, or appreciating indoor environment, which will add spirit enjoyment at bathing leisure time	Easy to damp.	Near indoor bathtub, or used to separate the sitting room and bathing health area.	medium	
Goods station	To receive goods except for clothes, together with offering a clean, organized, and orderly space.	It performed a little waste for resort hotel which occupancy rate is not high.	Near coat warehouse and the sitting room.	weak	
Coat warehouse use	Usually adopt the same color system with bathroom space; the large scale coat warehouse will bring us a great clothing belonging feeling.	Same as above.	The border of the bathroom and bedroom.	strong	

Tab.4-11 Commonly used furniture of upscale bathroom space

3. Equipment which commonly used:

Water experience in bathing environment of upscale bathroom design, in addition to enjoy the water bath, shower, hot spring water in liquid form such as experience, and sauna and steam bath experience the gaseous form of the water, should also be added a snow, snow shower room, cathedrals, and ice bath, to give people experiences the solid form of water, and challenge their own endurance limit. Figure 4-12 introduce equipment in high quality bathroom space design.

Analysis/facility	Characteristic/effect	Property	Size proportion	Location	Arrangement necessity	example
Bathtub	Usually playing the role of space composition elements, and enclosing a water experience environment for man.	Massage bathtub, as well as bed and massage armchair. High temperature resistant, pressure resistant, changeable modeling and wear-resisting.	 >=1.8m×0.8m×0.7m	Outdoors, landscape balcony, the best place to view the landscape or visual center.	strong	
Shower	The water design of indoor and outdoor landscape shower in different ways will give us an experience of bathing in the rain.	A variety of water experience and massage function, high temperature resistant, pressure resistant, changeable modeling, wear-resisting and seldomly making a noise.	 >=1m×1.6m×2m	Outdoors or a good place to view the landscape.	strong	
Face washing basin	It is an artwork itself, and its integral shape, color and material will give us a feeling of coherent.	Changeable modeling, wear-resisting, pressure resistant, waterproof, corrosion protection, moth-proofing, no deformation, no crack and good resistance to acid.	 >=0.4m×0.6m×0.83m	Outdoors, terrace or a good place to view the landscape.	strong	
Sauna	Offering more leisure and health methods for household spa and shower, and experience of vaporous water.	High temperature resistant, pressure resistant, changeable modeling, wear-resisting and corrosion resistant.	 >=1.2m×1m×2m	A relatively private position in the bathroom.	strong	
Steam bath	Offering more leisure and health methods for household spa and shower, experience of vaporous water and fragrant spa of smell.	High temperature resistant, pressure resistant, wear-resisting, corrosion resistant and good energy conservation.	 >=1.2m×1.5m×2m	A relatively private position in the bathroom.	medium	
Foot bath	Household leisure and health spa starts from foot bathing, offering a bottom-up relaxing space experience.	Changeable modeling, wear-resisting, pressure resistant, waterproof, corrosion protection, moth-proofing, no deformation, no crack and good resistance to acid.	 >=0.5m×0.6m×0.4m	Near the sink or the sitting room.	medium	
Snow shower	A showering experience to promote endurance limits; a pursuing for stimulation, as well as a promotion for blood circulation.	Changeable modeling, wear-resisting, low temperature resistant and corrosion resistant.	 >=1.2m×1.5m×2m	A good place to view the landscape or a relatively private position.	weak	
Ice spa pools	Both an innovation experience of household shower, and a development of situation sense.	Changeable modeling, freeze-proofing, wear-resisting, pressure resistant, waterproof, corrosion protection, moth-proofing, no deformation, no crack and good resistance to acid.	 >=0.4m×0.6m×0.83m	A relatively private position or near the wash basin.	weak	

 Household space  Bathroom space  Furniture space

Tab.4-12 Commonly used facilities of upscale bathroom space

4.7 Design for special people

Due to the upscale bathroom design is often combined with rest space such as bedroom, living room design, even there is no clear line design, this also convenient for the elderly or disabled on the use of the night. High quality embedded space that defend bath to flush bath arrangement, avoid walking space bump, convenient for children, older people, around them should also be laid antiskid material, as to place of easy to touch water should especially consider antiskid fall prevention measures. For sanitary and showering equipment arrangement comply with principle of wheelchair contour (figure 4-1).

All kinds of equipment (bathtub, shower, wash basin, etc.) of the barrier-free measures will refer to the corresponding national standards.

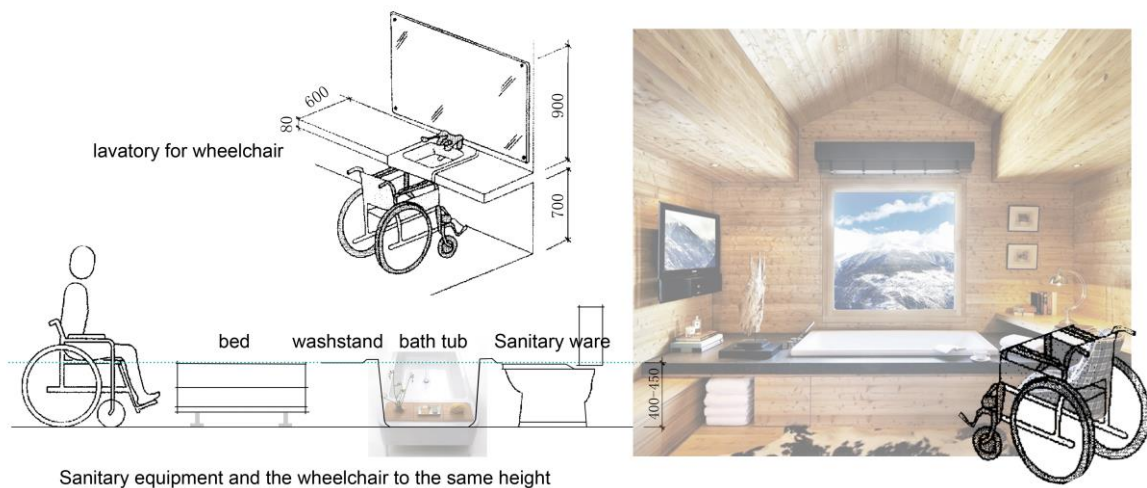


Fig.4-1 Accessible design in upscale bathroom space

Summary of chapter 4:

This chapter collects 7 aspects of upscale bathroom design such as “space layout”, “scale processes”, “material and color”, “lighting design”, “landscape design”, “furniture and equipment”, “design for special people”. And also analysis and summarize the principle of top-grade home spa design in order to offer some reference for the future upscale bathroom design.

Part 5 Future trends

Upscale bathroom design in the future can offer a unique journey to a new, magical place. Around the world, as our bathroom designs tend to look more and more the same, travelers are increasingly demanding to have a special, one-of-a-kind experience when choosing and staying in bathroom design. This stunning part takes a fresh look at current and future innovative approaches that re-interpret bathroom design. The projects contained in the following pages create spectacular environments that transcend and transform the typical form. These bathroom design proposals provide some inspired answers to a timeless, universal question – how to provide comfortable and memorable places for visitors to stay. The different approaches used by the architects to create the fabulous solutions in this part can be grouped into several prominent themes.

5.1 Envision possible future developments

5.1.1 the feeling of time and space illusion—like time goes slower

In the future, people's perception of time will change. Time becomes faster, overloaded in information and unmemorable. The term of time itself will become an unfriendly term. One of the concept of future bathroom design is "slow down the time". Designers will create a quiet bathroom space where time is almost stopped to reach people's inner peace and give them a memorable moment to feel their own existence.

With the high level of technology use, there will be less barrier and limitation in intelligence and service provided by high-tech will become cheaper. Due to these technological achievements, it gets easier to transform information and promote the emergence of subculture.

Information received everyday will be overloading and minority culture will replace the hot topic. In such a fast pace to move on, people have to handle at least triple things per unit time, which means smaller unit will be used to measure time span between two events people dealing with. People get highly dependent on their schedule and could hardly remember what they have done except the last few things.

In this way, people's perception of time has changed. It becomes faster, overloaded in information and unmemorable. The term of time itself will become an unfriendly term.

The concept of slowing down the time enable people to reach inner peace and feel their unique existence and eliminate the sense of confined and enslaved by giving them a memorable moment and slowing down their footsteps.

The ceiling light of the future bathroom drops on the floor and the wallpaper can keep

the track of sunlight in memory of the time passed by. Everything is in an simple and friendly order to comfort people. They can fly their imagination and get rid of any mental burden in this memorable time.

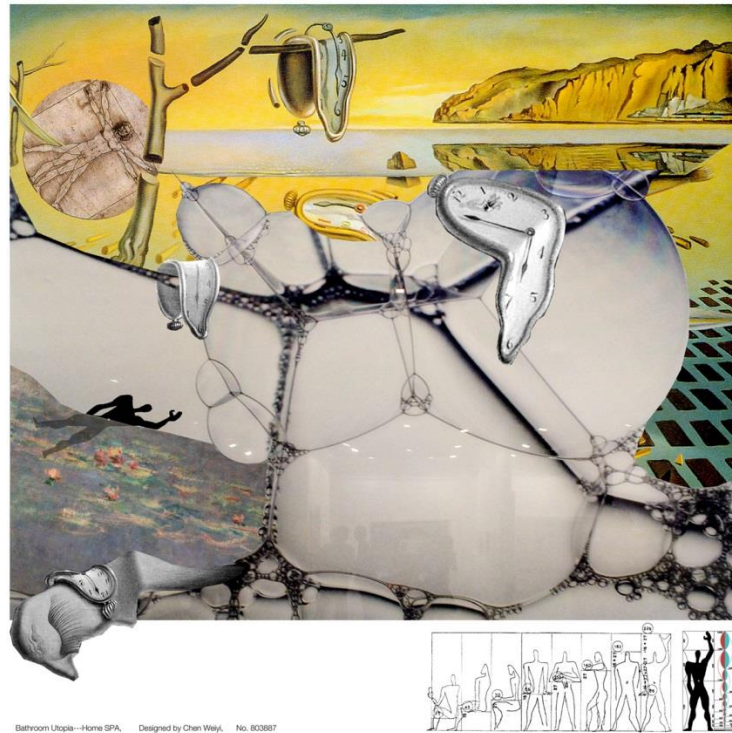


Fig.5-1 Experience of time and space illusion-1

"Bathroom Utopia - home spa-1" explanation:

Future bathroom space should be designed for busy people, creating the illusion of space and time to experience the mind and body to achieve a balance, one can "let time slow down the bathing environment", which gives a chance to capture the space and time, illusion caused by a sense of time and space, so that people feel the passage of time can slow down or even speed of time still, and this change can be controlled by themselves.

Bathing space in the future can also experience the reality of the dream events. Even immersed in a flower petal bath painters works of art can also be reproduced in things. For example, a piece of Monet's water lily petal fall into the clear puddles quietly, breaking the surface of the calm water halo spread to distant, immersed in baths of people just like this little petals, disturb the water dizzy, thinking together will tune out this is the process of emptying the mind, so people with water is calm again as if immersed in the painting itself embodies a sense of illusion of space



Fig.5-2 Experience of time and space illusion-2

"Utopia space - home spa-2" interpretation:

Future bathing space can feel things that cannot be done in real life: quietly floating on the sea scallop shell is the bathtub, and shell roof is a large mirror, illuminated the people themselves, reflection a sea landscape, while a reflection of colorful sunlight ...but at the moment the people bathed in scallops, and thought he was a pearl, temporal or eternal stagnation again...



Fig.5-3 Bathing with trees (Rustic house / UID Architects)

Bathroom space relationship between man and nature, the future is more subtle, landscape design and bathroom design has some isomorphic relationship, bathing, while enjoying the scenery opposite: the same people and plants embedded in the ground and has a water infiltration tree brings people bathing space fun. (5-3)



Fig.5-4 Bathroom brings illusion experience

Future bathroom space design, a luxury experience that waste of time for people to create space for pleasure, enjoy the pure serenity, beauty and privacy. This master bathroom has a blue-green mosaic, inspired bath, reminiscent of a rock pool, sits under the natural illumination of a skylight. A large wooden stool provides. A seat for grooming. (4-2),the natural and smooth shaping unified dressing room, writing desk and bathtub, so immersed in the moment which fell into the water filled with poetic visual enjoyment, exciting, memorable, with resonance. Kind of lost in the joy of nature, a part of the body and soul of the shelter, bringing total relaxation and sensual pleasure.

5.1.2 Relaxing with visual, sense, feeling, Auditory, olfactory

Nowadays people divide the feelings into visual, hearing, sense of taste, sense of smell, the tactile, pain, motion perception, temperature sensation and balanced feel; Also psychologists compartmentalize feelings into seven sensory systems, such as visual, hearing, sense of taste, sense of smell, skin feeling, muscle kinesthetic and balanced feel. The realm of skin experience is to express reflection. Bathroom space design in the future intent for the emotional interaction brought by skin experience. It is the "scenes interactive" of the soul that can bring a sense of pleasure to life.

We have to admit that under the influence of "positive emotion" (Donald A Norma "emotional design", P10, Fuqiu Fang Cheng-three, Beijing: Electronic Industry Press, 2004), broaden thinking beneficial relaxed mood; increase creative thinking, even tolerate some difficulties. In order to increase the durability of positive emotions, the environment of bathroom design in the future will be cared out for more possibilities on the pleasure of the experience.

As for the upscale bathroom design, to put tangible bathing landscape interact with human senses. Expand the extent of sensory pleasure. Expand the extent of sensory pleasure and reached a sense of visual experience through the skin feel. People gain not only visually tactile feeling, but also the resonance of hearing and smelling.

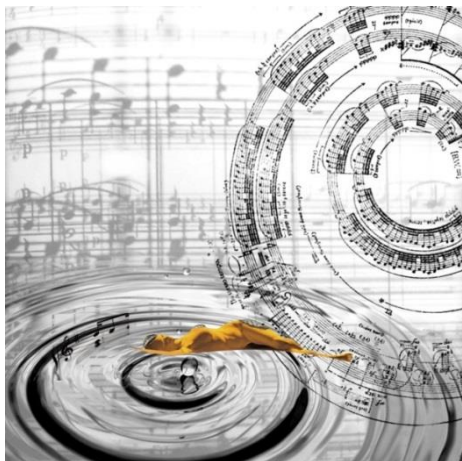


Fig.5-5 Sense relaxation experience-1



Fig.5-6 Sense relaxation experience-2

"Utopia space - home spa-3" (Fig.5-5& 5-6)interpretation:

Bathroom space is three-dimensional, but it shows its multi-dimensional side while people are bathing. The enjoyment with air, relaxation of visual, flow feeling in the water, musical accompaniment of the sounds in nature...All that make people get the space of pleasure, at the same time, they also achieve a space of self-expansion.



Fig.5-7 Sense relaxation experience -3

(collage designed by Chen Weiyi "Bathroom utopia --- home spa-4" Nov.2013)

"Utopia space - home spa-4"(Fig.5-7) interpretation:

To combine people's keen on closing to the water and fantasy of free-floating together. Bubble bath gives the feelings of bating in clouds. Also people can hear the sounds of the sea while bathing in the conch. So hearing the sound of the sea in the clouds gives people the feeling of being in the boundary between sky and sea. The special structure of conch forms small space, which can be used as storage box, and also, that can be the center of double-people bath tub.

5. 1. 3 Topology bathroom space---Self-involvement, self-design

Upscale bathroom design in the future, the relationship between bathroom and people will change from stationary to interactive relationship---Self participatory design: that is, in the whole space, when people change one side of the bathroom space, topological area on the other side changed, too. If regarded the whole room as a relaxing system, then the overall leisure system space can be arranged like topology design, to complete the overall volume of leisure space planning and design.

The new definition of luxury in the future should be freedom to create, individual experience, high-quality service and extreme comfort. Bathroom design may put no limitation and barriers to users, put human experience on the first place and take into consideration functionality, flexibility, individuality and sustainability, to develop an unrestricted room inviting users to participate in the shaping of the room.

For example, the module (4-3) made of tube-shaped units in the centre shoulders, most functions of daily use such as tables and seats, stairs, screen, shelves and so on. People can change the form of the module by pulling and pushing the tube units in order to meet their own specific needs. Figure 4-3a and 4-3b are a function of vision in both directions tube group, 4-3b is the bathroom space, people can modify them arbitrary, at the same time, the leisure space on the other side of the space changed, too.

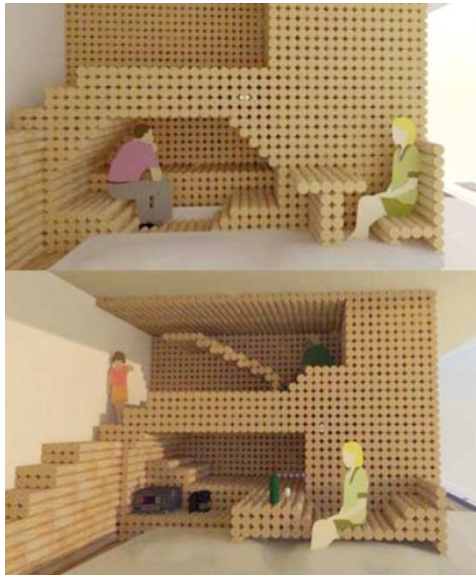


Fig.5-8a Topology bathroom space experience-1

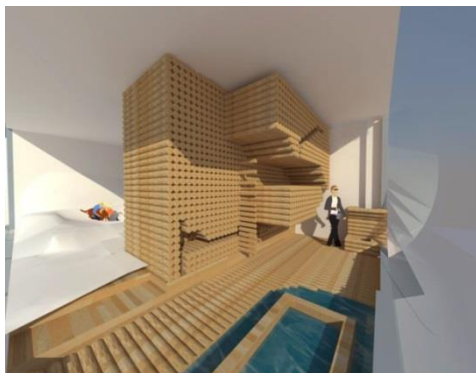


Fig.5-8b Topology bathroom space experience-2

5.2 Case study of future trends

Concept design case study: Thermal Spa

Designer: Not A Number Architects

The project is a proposal for a subterranean public bath beneath an urban plaza with a glazed roof at street level. Situated in the centre of Thessaloniki, Greece the proposal sets to re-establish the city's long lasting culture of public baths as a form of built social space par excellence.

A set of inverted arches, domes and cupolas organize the space of the public baths into an almost labyrinthic set of interconnected pools for the various water treatments. The activity in the pools is exposed at street level through a walkable glass floor giving the impression of bathers floating inside a temple. At the same time the hectic buzz of the city becomes a distant setting for the relaxing experience of bathing. Thus the public baths acquire the qualities of an open air space as opposed to the more hermetic enclosures of the traditional typologies.

A grid of plane trees is planted in the inverted columns of the arcades functioning as a uniform shading canopy for the plaza and the baths underneath. This natural canopy lets winter sunlight in and protects from overheating during summer time. Underneath this grid of trees, inside the thick pillars the more private rooms of the baths are placed.

Visitors descend to the level of the pools via three wells with spiral staircases. Round shafts in the centre of the wells house the elevators and small canteens at ground level. A sequence of sanitary facilities, washrooms, showers and cloakrooms surround the main bathing hall preparing the visitor for a ceremonial experience of body wellness. The 4000 square metre bathing complex comprise 10 pools including one 40*8 metre sports pool and a grotto-like hall with bubbling jets and whirlpool.

This is very true and it was indeed a key element in the design concept of the project. Turning upside-down the typology of the baths was not just a formal exploration but also a playful way to reveal a long-forgotten social habit. The openness of the scheme establishes the function of the baths as an urban public experience in a provocative way. The historical typology of the baths as almost hermetic structures with a sequence of small halls separating men and women followed practical as well as social rules of the time not necessarily applicable in contemporary culture. We envisioned the baths as an extension of the social interaction taking place in the public of a city centre, only this time on another level-literally and metaphorically-where relaxation and body wellness are also part of the game.



Fig.5-9 Concept of Thermal Spa in the centre of Thessaloniki

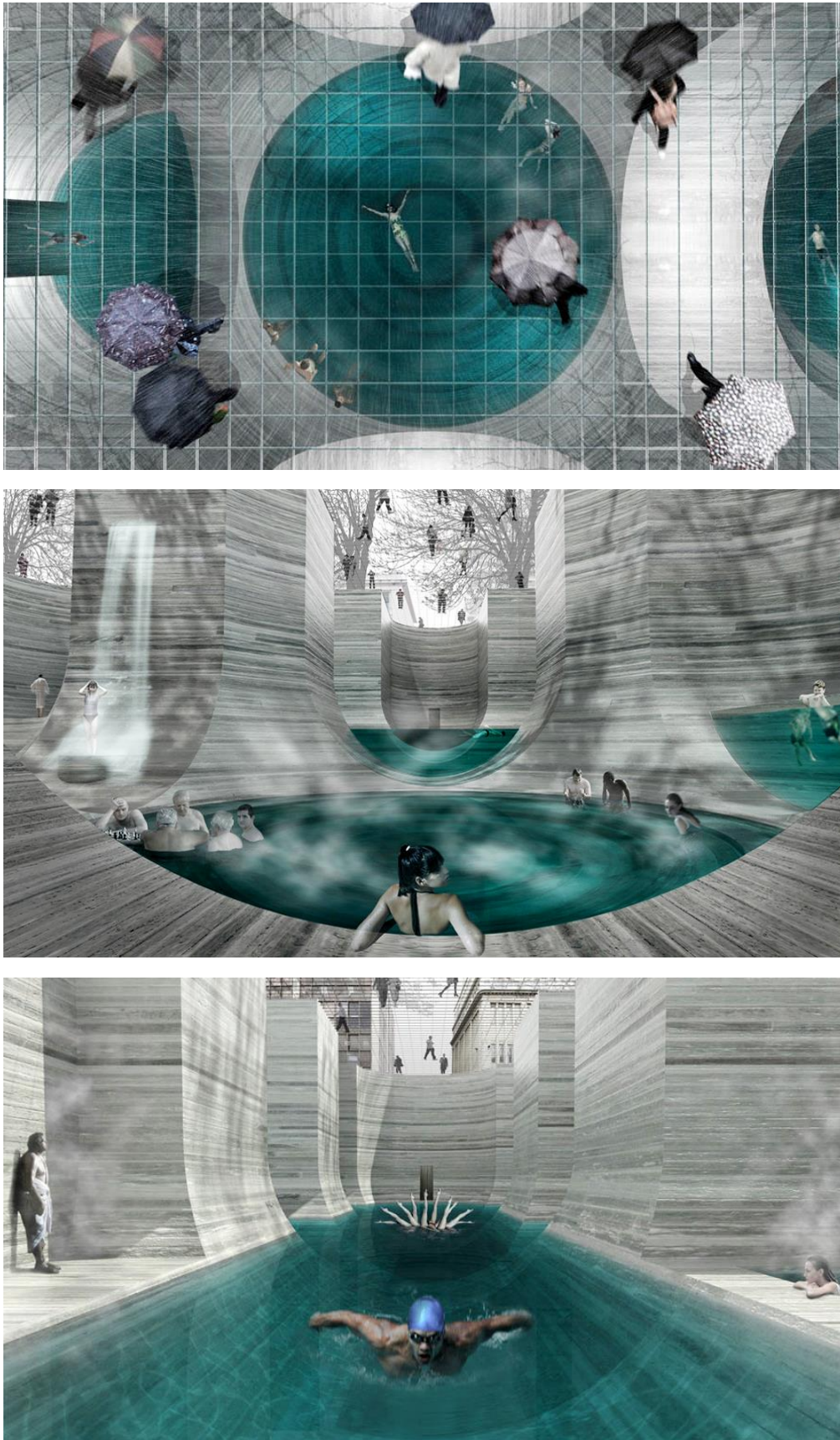


Fig.5-10 Images of Thermal Spa in the centre of Thessaloniki

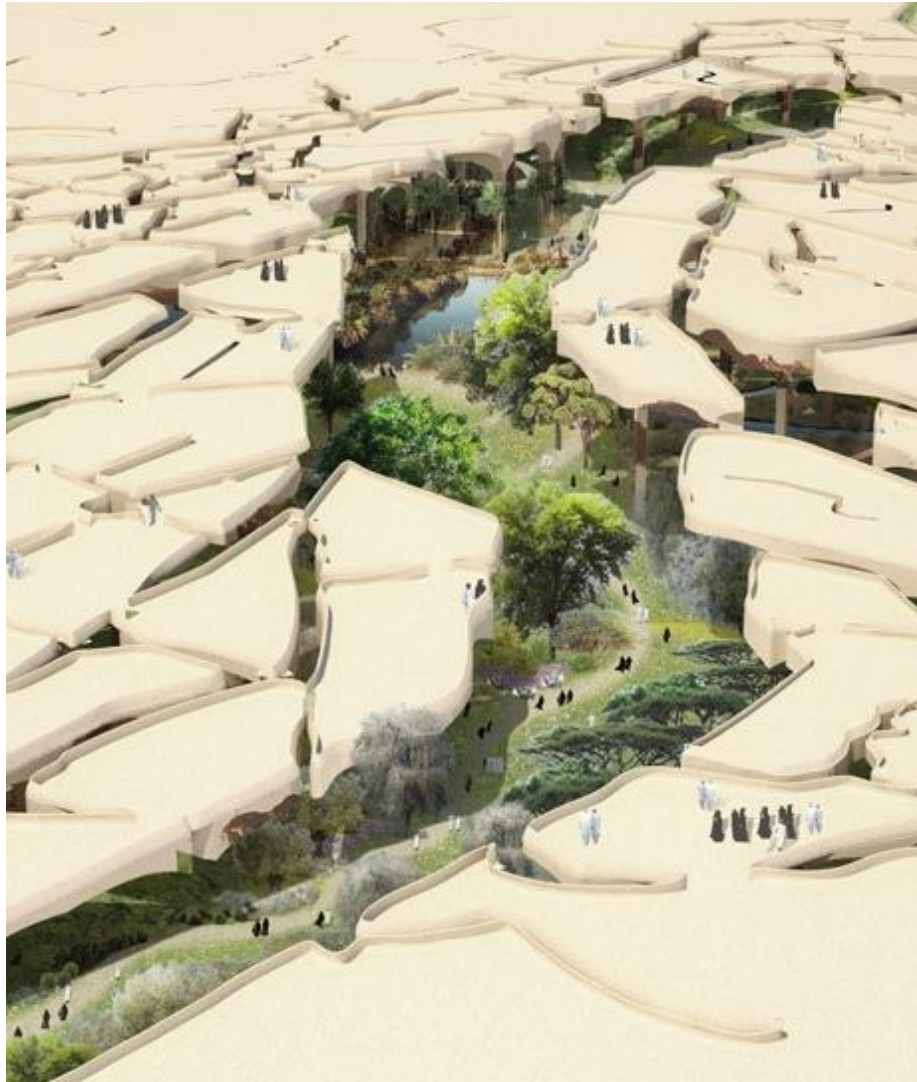
The thermal pool and landscape is interrupted by rest areas and passages that lead to more private halls for sauna, aromatic steam bathing and massage therapies. Plain space to highlight the design concept without being disturbed by other design elements. Holds a unique way with water, the water is full of interconnected paths. The water surfaces are surrounded by more private rooms including saunas, steam bathing and a variety of hydrotherapies as well as the shower and cloakrooms. In the rest of the complex the only thing separating the bathers from the view to the plaza above is the thick layer of mist caused by the water of the thermal pools.

This layout is clever because they turn upside-down the typology of the baths. Subsequently the inverted domes and arches were used as a device to organize the programmatic requirements for the water activities and formulated the public space in-between the private rooms. The different water pools were positioned according to their water temperature and dimension requirements separated by dry paths and making it easy to shift from one to another. Normally, the public bath is an inward focus space, the users share their publicity within a private shell. The people inside the bath have nothing to do with the people outside the bath building. In this project, the relationship between the people inside and the people outside is dramatic different. Here is a very direct visual connection between these two groups. So this design is not just inverted the form of arch, it also inverted the public private relationship. That inspire future home spa design rethinking the relationship between private space and public area.

Summary of chapter 5:

Through the two parts in this chapter introduces the future high-quality innovation and the development direction of the space that defend bath may form. The first part through the introduction of the three tentative design of the author: both the space that defend bath collage intention and a topological space that defend bath design, describes the future high quality characteristics of the space that defend bath the illusion of time and space, recreational senses, spatial topology. The second part introduces the future development trend of bath space, subversive conceptual design and mining is worth to learn from it, to the space that defend bath, home Spa provide inspiration for the future

Possible design---Home spa in Xinjiang Province, China
Landscape bathing and relaxing space in desert



Conclusion

Humans historically associated with life to all things, are in constant innovation and improvement, from one generation to another. And never stop or backward, thus created the modern civilization of human beings. We are living in more superior modern buildings where have better ventilation, lighting, temperature, firmness, sanitation, safety condition than original cave.

For the bathroom space, its development also not stagnated, and developed on different aspects. Bathroom is a simple and private space in the past. With the development of "bathing culture", people's understanding and using of bathroom space also revolutionary changed. Foreign upscale bathroom design emphasis on rational minimalist style, space form, material and color is low-key and delicate, in order to emphasize the coordination of space function and the natural environment to maximize and coherence. In China, the bathroom design attempts to a variety features, or to use innovative ways of oriental mining depth of bath space artistic conception design, or change the traditional style with international standards, from perceptual to rational design.

Based on the historical aspect of bathing culture research, the bathroom space case studies of Europe and the United States and the modern developed countries in East Asia, comes the principle and trend, the current characteristics of upscale bathroom space design, thus the following summary:

To the privacy level, from the earliest open-air bath, to begin to have bathroom and toilet, then human has the independent space for bathing, the proportion of bathing space become lager and lager. For the definition of privacy is also a breakthrough: privacy is not equal to a small anechoic chamber, it gives people a sense of security, let the heart has more capacious space for leisure and keeping in good health.

From the aspect of sanitary ware, bathroom design from "three-piece" to "four-piece", and constantly increase the female washing basin and men urinal, sauna room, spa, massage equipment, such as sanitary ware ductility. Emphasis on Multi-functional leisure space becomes a new trend.

For the use of ownership level, from each household has only one toilet to have the main bathroom and a second bathroom. Then divide a bathroom into a male and a female master main bathroom. Tools are more detail divided, such as double basin double toilet, etc.

From the level of relational space, upscale bathroom adopted more series space, such as the combination of bedroom, study, living room, balcony, garden, swimming pool, gym and so on, the bathroom space from the original single closed space to a lager space connected with locker room, make-up room. Composite coherence leisure bath space are connected in series with the spa space.

From the perspective of function orientation, people's living standard and aesthetic

demand continues to increase, so the quality of life requirements also have a greatly improved, people's choosing of bathing tools and bathroom space from the basic functionality requirements, gradually to the fashion personality, culture and art to enjoy the pursuit of higher level development. Sanitary ware is no longer placed isolated, but together designed with bathroom interior space and from the initial to satisfy the physiological health, develop to become a relaxed space, more leisure, especially as a second living room.

From the aspect of plastic arts and visual, space decorated with more and more art elements, such as innovation application of light and color, odor distributing device settings, decoration materials and texture choosing, as well as more and more landscape introducing.

To sum up, the development of upscale bathroom space, has been moving toward a higher quality of design, in the following several aspects to seek a more intimate, more convenient, more healthy, more comfortable, more leisure, more artistic, more functional breakthrough. Upscale bathroom space design will change the behavior and life style of people, bathing will from the obligation to entertainment (that is, from the washing house which is a lack of emotional colors to a muscle relaxation room, the focus of attention is no longer a cleaning obligation but comfortable experience); From functional to emotional (which means, from the technical quality priority to the bathroom space design and the subjective experience factors play a leading role, whether the bathroom space design with emotion emotional experience or not becomes the key points of the design); From enclosed space to open space(that is, bathroom space is changed from a little private place to the relaxing open space where shows owner's taste, connecting dining, entertainment, bathing, sleeping space to the leisure bathroom space); From negative darkroom to landscape focus (which means, bathroom space is developing from the forgotten corner space to landscape focus or the center of "whirlpool" conference , with plenty of natural plant separates different space); From stable to changeable (that is, the relationship between bathroom space and human from uncontrollable to flexible, enhance the interaction between people and relaxing system).

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Supplement A.

Fig.1-1 case studies of upscale bathrooms in top-grade resorts and houses

(Source: collected by the author)

Fig.2-1 section of the baths of Caracalla

(Source:<http://www.architecture.com/LibraryDrawingsAndPhotographs/OnlineWorkshops/RomingRome/01AndreaPalladio.aspx#.U2rKHsGS3IU>)

Fig.2-2 Current situation of the baths of Caracalla

(Source: http://en.wikipedia.org/wiki/Baths_of_Caracalla)

Fig.2-3 Bird-eye perspective of the baths of Caracalla-1

(Source: Author photoed at the entrance hall of the baths of Caracalla)

Fig.2-4 Bird-eye perspective of the baths of Caracalla-2

(Source: Author photoed at the entrance hall of the baths of Caracalla)

Fig.2-5 Section perspective of the baths of Caracalla

(Source: Author photoed at the entrance hall of the baths of Caracalla)

Fig.2-6 Plan of the baths of Caracalla (Source: http://en.wikipedia.org/wiki/Baths_of_Caracalla)

Fig.2-7 Section layout of the baths of Caracalla (Source: Drawn by the Author)

Fig.2-8 Space layout of the baths of Caracalla (Source: Drawn by the Author)

Fig.2-9 Section of the baths of Caracalla

(Source: <http://www.globalsecurity.org/military/world/spqr/rome-baths-caracalla.htm>)

Fig.2-10 Water space analysis of the baths of Caracalla

(Source: Author photoed at the entrance hall of the baths of Caracalla)

Fig.2-11 Diagram of Mid-East bathing culture (Source: Drawn by the Author)

Fig.2-12 Interior of Sultan Amir Ahmad Bathhouse in 1840

(Source:http://en.wikipedia.org/wiki/File:Interior_bath_Kashan_by_Eug%C3%A8ne_Flandin.jpg)

Fig.2-13 Interior of Sultan Amir Ahmad Bathhouse now

(Source: http://en.wikipedia.org/wiki/Turkish_bath)

Fig.2-14 Plan of Sultan Amir Ahmad Bathhouse (Source:

http://en.wikipedia.org/wiki/File:Plates_on_the_bazar_-_Haji_Seid_Hussein_and_bathhouse_Kashan_by_Pascal_Coste.jpg)

Fig.2-15 Section of Sultan Amir Ahmad Bathhouse (Source:

http://en.wikipedia.org/wiki/File:Plates_on_the_bazar_-_Haji_Seid_Hussein_and_bathhouse_Kashan_by_Pascal_Coste.jpg)

Fig.2-16 Space layout analysis of Sultan Amir Ahmad Bathhouse (Source: Drawn by the Author)

Fig.2-17 Section layout of Sultan Amir Ahmad Bathhouse (Source: Drawn by the Author)

Fig.2-18 Japanese bathing culture diagram (Source: Collected by the Author)

Fig.2-19 Huaqing Pool in Tang dynasty (Source: Unknown)

Fig.2-20 Space layout of Huaqing Pool in dynasty (Source: Collected by the Author)

Fig.2-21 Haitang Pool in Ha Qing Pool (Source: Drawn by the Author)

Tab.2-1 Time line of Western bathing culture (Source: Drawn by the Author)

Tab.2-2 Time line of Chinese bathing culture (Source: Drawn by the Author)

Tab.2-3 Time line of Japanese bathing culture (Source: Drawn by the Author)

Tab.2-4 Comparison of Western, Mid-East and Eastern bathing culture

(Source: Drawn by the Author)

Fig.3-1 Diagram of upscale bathroom function concept (Source: Drawn by the Author)

Fig.3-2 Outdoor sauna (Source: <http://www.thermarium.com/en/content/design>)

Fig.3-3 Foot bathing (Source: <http://www.thermarium.com/en/content/design>)

Fig.3-4 Snow house (Source: <http://www.thermarium.com/en/content/design>)

Fig.3-5 Ice fountain pool (Source: <http://www.thermarium.com/en/content/design>)

Fig.3-6 Snow shower (Source: <http://www.thermarium.com/en/content/design>)

Fig.3-7 Multifunctional bathroom products

(Source: <http://www.thermarium.com/en/content/design>)

Fig.3-8 Outdoor swimming pool in Alila Hotels & Resorts

(Source: <http://www.woha.net/#Alila-Villas-Uluwatu>)

Fig.3-9 Bathroom in Alila Hotels & Resorts

(Source: <http://www.woha.net/#Alila-Villas-Uluwatu>)

Fig.3-10 Shower in Alila Hotels & Resorts

(Source: <http://www.woha.net/#Alila-Villas-Uluwatu>)

Fig.3-11 Guest room plan layout in Alila Hotels & Resorts (Source: Drawn by the Author)

Fig.3-12 Guest room section layout in Alila Hotels & Resorts (Source: Drawn by the Author)

Fig.3-13 Guest room space layout in Alila Hotels & Resorts (Source: Drawn by the Author)

Fig.3-14 Guest room bathroom in Hotel Wiesergut (Source: <http://www.archdaily.com/340876/>)

Fig.3-15 Outdoor swimming pool in Hotel Wiesergut (Source: <http://www.archdaily.com/340876/>)

Fig.3-16 Guest room plan layout of Hotel Wiesergut (Source: Drawn by the Author)

Fig.3-17 Guest room section layout of Hotel Wiesergut (Source: Drawn by the Author)

Fig.3-18 Guest room space layout of Hotel Wiesergut (Source: Drawn by the Author)

Fig.3-19 Site plan of Garden Terrace Miyazaki resort and hotel (Source: Unknown)

Fig.3-20 Guest room bathroom in Garden Terrace Miyazaki resort and hotel (Source: Unknown)

Fig.3-21 Guest room bathroom in Garden Terrace Miyazaki resort and hotel

(Source: Drawn by the Author)

Fig.3-22 Space layout of guest room in Garden Terrace Miyazaki resort and hotel

(Source: Drawn by the Author)

Fig.3-23 Space layout of guest room in Garden Terrace Miyazaki resort and hotel

(Source: Drawn by the Author)

Fig.3-24 Bathing space of guest room in Moonlight Motel-1

(Source: <http://moonlightmotel.com.tw/>)

Fig.3-25 Bathing space of guest room in Moonlight Motel-2

(Source: <http://moonlightmotel.com.tw/>)

Fig.3-26 Bathing space of guest room in Moonlight Motel-3

(Source: <http://moonlightmotel.com.tw/>)

Fig.3-27 Space layout of guest room in Garden Terrace Miyazaki resort and hotel

(Source: Drawn by the Author)

Fig.3-28 Site plan of Innhouse (Source: <http://qing.blog.sina.com.cn/tj/6b2a5d3f33001u9r.html>)

Fig.3-29 Bathroom space in Innhouse

(Source: <http://tophotel.diandian.com/post/2012-07-16/40030083813>)

Fig.3-30 Guest room plan layout in Innhouse

(Source: <http://qing.blog.sina.com.cn/tj/6b2a5d3f33001u9r.html>)

Fig.3-31 Guest room section layout in Innhouse (Source: Drawn by the Author)

Fig.3-32 Guest room space layout in Innhouse (Source: Drawn by the Author)

Fig.3-33 Bathroom space design-Boundaries fuzziness (Source: Drawn by the Author)

Fig.3-34 Bathroom space design-Multilevel diagram (Source: Drawn by the Author)

Fig.3-35 Bathroom space design-Landscape interaction diagram (Source: Drawn by the Author)

Fig.3-36 Outdoor swimming pool in Casa dela Flora Resort

(Source: <http://www.casadelaflora.com/gallery.html>)

Fig.3-37 Bathroom of guest room in Casa dela Flora Resort

(Source: <http://www.casadelaflora.com/gallery.html>)

Fig.3-38 Bathroom in Taianguanzhi Spring spa

(Source: <http://www.papawaqa.com.tw/tw/room-2.asp>)

Fig.3-39 Bathroom space design-Layout reorganization (Source: Drawn by the Author)

Fig. 3-40 Bathing space in Aetherea concept Spa (Source: Unknown)

Fig. 3-41 Bathing space in Waterhouse boutique hotel (Source:

http://www.archdaily.com/263158/the-waterhouse-at-south-bund-neri-hu/5029c9e528ba0d2561000a9_the-waterhouse-at-south-bund-neri-hu__mg_7982-jpg/

Fig. 3-42 Bathroom space design-Emotional experience design diagram

(Source: Drawn by the Author)

Fig. 3-43 Position corresponds to the emotional experience research step in Therme Vals

(Source: Drawn by the Author)

Fig.3-44 Diagram of random and dynamic emotional experience entrance design

(Source: Drawn by the Author)

Fig.3-45 Diagram of random and dynamic emotional experience entrance design

(Source: Drawn by the Author)

Fig.3-46 Sound pool experience (Source: Drawn by the Author)

Fig.3-47 Hot and cold bathing experience (Source: Drawn by the Author)

Fig.3-48 Steam bath experience (Source: Drawn by the Author)

Fig.3-49 Aromatic bath experience (Source: Drawn by the Author)

Fig.3-50 Lighting experience design (Source: Drawn by the Author)

Fig.3-51 Compared design of the window at rest area (Source: Drawn by the Author)

Fig.3-52 Bathroom space design—Emotional experience in Therme Vals

(Source: Collected by the Author)

Tab.4-1 Relationship of upscale bathroom space and the surrounding space

(Source: Drawn by the Author)

Tab.4-2 Location of upscale bathroom space in the house (Source: Drawn by the Author)

Tab.4-3 Dimension processing of upscale bathroom space (Source: Drawn by the Author)

Tab.4-4 Commonly used materials of upscale bathroom space (Source: Drawn by the Author)

Tab.4-5 Commonly used colors of upscale bathroom space (Source: Drawn by the Author)

Tab.4-6 Commonly used lighting of upscale bathroom space (Source: Drawn by the Author)

Tab.4-7 Commonly used illuminance of upscale bathroom space (Source: Drawn by the Author)

Tab.4-8 Relationship of upscale bathroom space and the outdoors (Source: Drawn by the Author)

Tab.4-9 Outdoor landscapes of upscale bathroom space (Source: Drawn by the Author)

Tab.4-10 Commonly used artworks of upscale bathroom space (Source: Drawn by the Author)

Tab.4-11 Commonly used furniture of upscale bathroom space (Source: Drawn by the Author)

Tab.4-12 Commonly used facilities of upscale bathroom space (Source: Drawn by the Author)

Fig.4-1 Accessible design in upscale bathroom space (Source: Drawn by the Author)

Fig.5-1 Experience of time and space illusion-1

(Source: Collaged by the Author “Bathroom utopia-home spa-1” Nov.2013)

Fig.5-2 Experience of time and space illusion-2

(Source: Collaged by the Author “Bathroom utopia-home spa-2” Jan.2014)

Fig.5-3 Bathing with trees (Rustic house / UID Architects)

(Source:<http://thelayer.me/2012/11/08/rustic-house-by-uid-architects/rustic-house-by-uid-architects-6/>)

Fig.5-4 Bathroom brings illusion experience (Source: Unknown)

Fig.5-5 Sense relaxation experience in bathroom space-1

(Source: Collaged by the Author “Bathroom utopia-home spa-3” Nov.2013)

Fig.5-6 Sense relaxation experience in bathroom space-2

(Source: Collaged by the Author “Bathroom utopia-home spa-3” Nov.2013)

Fig.5-7 Sense relaxation experience in bathroom space-3

(Source: Collaged by the Author “Bathroom utopia-home spa-4” Jan.2014)

Fig.5-8a Topology bathroom space experience-1

(Source: Designed by the Author “Bathroom in 2032”)

Fig.5-8b Topology bathroom space experience-1

(Source: Designed by the Author “Bathroom in 2032”)

Fig.5-9 Concept of Thermal Spa in the centre of Thessaloniki

(Source: <http://www.goood.hk/Thermal-Spa-By-NaNA.htm>)

Fig.5-10 Images of Thermal Spa in the centre of Thessaloniki

(Source: <http://www.goood.hk/Thermal-Spa-By-NaNA.htm>)