

DESERT TOURISM ARCHITECTURE AND STARLIGHT

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Deserts are now becoming a more and more popular tourist destination. The construction of new infrastructure, paved roads and airport are opening to mass tourism a destination reserved before to few adventurers, backpackers and some happy few who since the 20's were able to pay the price of an incredibly long and difficult journey to visit desert and their oases. Meanwhile for different reasons, political as well as social, those arid regions became more and more impoverished. Their scarce resources in water are diminishing with the development of tourist accommodations, their landscape destroyed by out-of-scale hotels and polluted by garbage, grey water and light pollution

Desert tourism refers to a diversity of products, experiences and environments. There is no clear single desert tourism market. Weaver has defined desert tourism through different attributes. Among them for our concern, we will take two: Exceptional geological features and climatic conditions and Caravans or other desert trekking.

Because of those two conditions, the openness of the landscape, the quasi absence of rain and humidity, and the activities of trekking, deserts are exceptional places to observe the starlight. However now deserts are becoming more habited on their edge and the genuine qualities of their dark sky are threatened. Of course as deserts are the less developed zone as one can see on the famous NASA picture, there is still zones even in United States which doesn't have any light on satellite pictures. We will begin to trace some relations between architecture and starlight observation, and draw a brief history of desert tourism, before looking at some current landscape or architectural project to protect and to admire the starlight.

Among other earth work James Turell project is especially interesting to look at. Indeed architects and developers began to be interested by starlight as an inspiration to design new tourist destination.

Starlight architecture

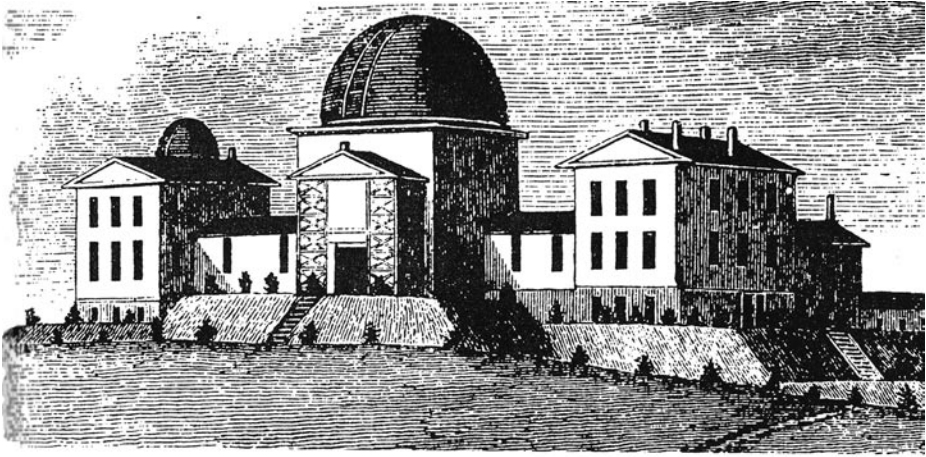
First overall I'm going to follow briefly the relations between architecture and starlight observation.

Until the eighteenth century, many buildings were considered as scientific instruments to record the movement of planets. Among the instruments to look at the sky or to be able to follow the course of the stars, churches were important, this may seem metaphorical, but it wasn't always. The enduring fascination for meridian observation in churches has been studied for instance by an historian like John Heilbron, *The Sun in the Church. Cathedrals as Solar Observatories*.

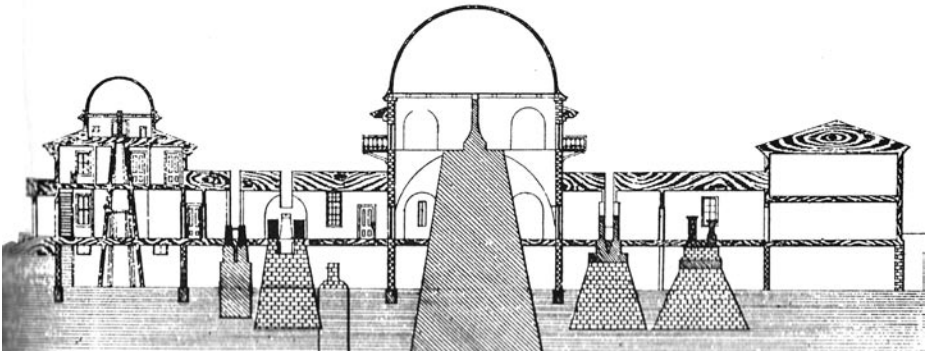
In churches like Santa Maria degli Angeli in Roma one can see the line of the meridian ungrave in the ground as well as in the cathedral of Palermo.

The most spectacular example of an experimental dimension of a building was the Parisian Observatory designed by Claude Perrault around 1670. It was meant as a giant scientific instrument. Its main axis coincided with the Paris meridian, while the various faces of its towers were disposed so that they corresponded to the directions of the sun at the solstice and equinoxes. In addition, a central shaft went from the underground quarries to the terrace roof. It was meant to put a telescope for zenithal observation. The device never worked however, because of the air vortices induced by the shaft.

Boullée's Cenotaph for Newton is synonymous with a crisis. What was literal before becomes metaphorical. The building is no longer a true instrument but a metaphor of a scientific instrument.



39. Cambridge, Massachusetts, Harvard College Observatory, 1844.



Solon Bailey, *The history and work of Harvard Observatory*, 1839 to 1927: an outline of the origin, development, and researches of the Astronomical Observatory of Harvard College together with brief biographies of its leading members /1854. Photograph by

In United States, the first building dedicated to sky observatories was not build before 1831, on the campus of the University of North Carolina. Harvard built its first observatory in 1847. Before the construction of a real observatory, Harvard Observatory consisted of a dome on top of a student house and a few small telescopes. The comet of 1843 was a great help on promoting stars studies at that time. Scholars realized at this occasion that Harvard instrument were not even able to measure its diameter, and unable to calculate its orbit. A public subscription raised enough money to buy the largest refractor available. With the new telescope Bond found eleven comets. With the development of urbanization and the resulting light pollution, observatories tend to migrate to remote region, and desert like the European Southern Observatory founded in 1962 in the Atacama Chilean desert. There is no longer a link between observation and architecture.

The antenna or telescope are now physically separate from the rest of the program. No longer architecture is asked to be part of the scientific project. Science and architecture are now separate disciplines, however there is a space to reinvent this relation for amateur observation of the sky, especially when the sky is clear from light pollution as it is in the desert.

Car tourism in the desert

Tourism in the desert was always associated to two principal objects of curiosity. One is a man made environment, a protected place, a paradise on earth, the oasis. The other one is of course the desert, its wild space, arid and dangerous, inhabited by nomads, under a bright velvet, open, beautiful sky at night.

Tourism in the desert began relatively late in comparison to other destinations, like mountains, cities, or historic monuments.

One of the reasons was the lack of infrastructure, and the danger associated with the desert. As it is quite common for a destination to be first described by photographer scientist, poet or writer before being open to the tourist consumption, deserts were described at first as a dangerous destination.

I found a description of a travel in the Southern Morocco in 1871. The book was published only in 1878, the same year the Beadecker for Palestine and Syria was published. We can define those years between 1869 and 1878 as the beginning of tourism in desert. The travel was of course very difficult to organize and needed a lot of servants and materials..

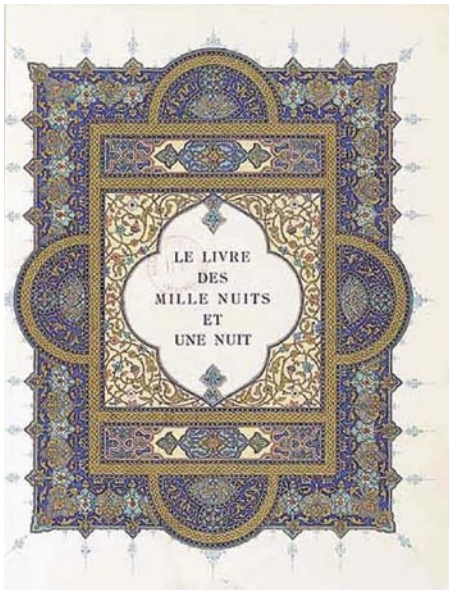
The first destinations were Egypt and Palestine opened by the English as an extension of the Grand Tour. Then came Syria and Palestine. As stated by A Shachar and Noam Shoval Tourism in Palestine, occurred in Spring 1869, when Thomas Cook and Son began operations in the region with an organized tour for thirty tourists to Egypt and the Holy Land – a tour guided by Cook himself.¹ By 1882 the company had led more than five thousand tourists to see the two location . However, until the mid twentieth century danger of attack and the lack of infrastructure limited the extension of tourism in the desert, which was mostly concerned by cities and monuments like the visit of the Egyptian pyramids. One has to wait for the colonization to occure in Sahara, to see the development of desert tourism.

In his book *La Roue et le Stylo* C. Bertho Lavenir² describes the evolution of tourism

after the diffusion of bikes and cars around 1895. This evolution has affected desert tourism.

Bicycles and cars tourism are going to change the idea of journey for two reasons. The first one was that it will give the freedom to visit unknown places without having to follow the railways schedule, the other one, that it has encouraged the foundation of Travel Associations. In the desert with a good car one doesn't need a road, any trails could be trace as long as one can find his way. Desert was open very early to cars.

Associations also invented a new kind of tourism: touring by car. In the early 20's Transat started tours by car in the desert, and began to built small hotels on its edge to find accomodation for the tourists. However as there was not much to do or to see, tourism in the desert is characterized since its origin by itinerancy.



Front cover of *Le livre des Mille nuits et Une nuit*, édition 1926, traduction Antoine Galland (1646-1715), BNF. Photograph by Virginie Lefebvre.

small planet, B612. Saint Exupery himself landed by accident in the desert and indeed as an aviator has looked at the starlight and has imagined the story from that vision.

As *The Little Prince* was translated in 160 languages, one can argue that this vision was shared by a large number of people.

Movies also played a role in the construction of the fascination for the desert as a sublime place as well as a dangerous place to be.

The Ten Commandments, distributed in 1956 and *Lawrence of Arabia* distributed in 1962, contributed to the imaginary of the desert as the place both mythical and dangerous, where the western civilization is trying to find a truth. In the desert the night represents the Life opposed to the day when the sun is burning.

Lawrence before attacking Aqaba, retreated during the night to think about his plan.

Constitution of an imaginary

Among the descriptions of the desert, and especially of the desert at night, that filled the tourist imagination was *The one thousand and one Night*, book translated first at the beginning of the XVIII century and which could explain the vogue of *Orientalism*. Desert became a place which was no longer a wild landscape but also the location of magic cities, beautiful princesses and charming princes.

During the first phase of the car tourism *The Little Prince* published in 1943 gave a new, different image of the desert, a place of innocence far from the modern civilisation. The French aviator Antoine de Saint-Exupéry's most famous novel includes a number of drawings which are reproduced in most versions. Most of the story is about planets and stars, the Little Prince himself has fallen from the sky from a

Nights in the desert are not always synonymous with a quiet time, battles occurred at night, as well as celebrations. However the discussion between Sherif Ali and Lawrence set the different position of the protagonist an English man and an arab *vis a vis* the desert and also about dark night opposed to clear one :

“I think you are another of these desert-loving English...No Arab loves the desert. We love water and green trees, there is nothing in the desert. No man needs nothing. Or is it that you think we are something you can play with because we are a little people? A silly people, greedy, barbarous, and cruel? What do you know, Lieutenant. In the Arab city of Cordova, there were two miles of public lighting in the streets when London was a village...”

Here the presence of light is seeing as a glorious sign of the past, as the dark desert is synonymous with deseperate wilderness.

Today Desert tourism is an itinerant one, most of the tourist stay one or two night in the same place, moving from a camp to an other staying in hotel with confort or a plain tent without electricity. It is quiet remarkable however that tour organizers try to avoid the use of electricity in order to give a better experience. At the same time electricity will soon reach the smallest settlements and this attitude will become artificial.

The phenomena of industrialization explained the enduring fascination for genuine quality of the dark sky of the desert.

Starlight and National Parks

One of the main destination for desert tourism in the US is the system of National Parks. However in Arizona parks and monuments have protected their night sky, cities' light pollution remains. At *Organ Pipe Cactus National Monument* in Arizona, the haze of city lights reaches up to 30 degrees above the horizon.

Some cities, often led by local astronomers, have already reacted. Tucson has the strictest lighting codes in the country, designed primarily to protect nearby Kitt Peak National Observatory. New Mexico recently passed the Night Sky Protection Act, which puts new rules on outdoor lighting.

In the US the National Park organization estimates that only 10 percent of the nation's population can see the Milky Way. Night sky has always been looked at as simply a natural resource,” says National Park Service staffer Joe Sovick, “but the Historic Preservation Alliance is viewing it as a cultural resource.”

Chaco Culture National Historic Park, also concerned about light pollution, installed lights with motion sensors, shields and lower beams. By changing its lighting habits, Chaco was selected as the site for a \$35,000 observatory project.



A star-filled night sky is important to preserving the desert that locals and tourists have come to know and appreciate.

Earth work

If no longer architecture is an explicit instrument to contemplate and to observe the starlight, Earth work artists are building sites and installations to do so.

James Turrell is investigating for a long time the notion of light, starlight or sun light in the desert by constructing giant earth architecture to observe them. Roden Crater is located outside Flagstaff, Arizona, Turrell is turning this natural cinder volcanic crater into a massive naked-eye observatory, designed specifically for the viewing of celestial phenomena. James Turrell described his works:³

Roden Crater is at 7000 feet. One of the things you get at a high altitude, if you get away from city light, is that the universe really opens up to you. It's a very different experience. I even got a county ordinance passed to preserve dark skies.

As the Arizona sky is one of the clearest in the world, this crater serves as a celestial observatory. Rooms linked by passageways are to be dug into the crater following precise calculation, to allow the light of the rising sun to penetrate during the solstices and the equinoxes. The layout of these rooms and tunnels follows rules which allows for various effect of light such as the observation of eclipses.⁴ James Turrell's Roden crater will be a destination, a non scientific place to contemplate the dark sky.

In the Moroccan desert, at the Baha Baha lodge, the owner is currently building a tower for its clients to observe the sky at night. One wonder why he doesn't use the terrace of the Kasbah which would serve perfectly for that purpose. It is probably like the observatory tower that Marie de Medicis built near her castle, to give an image of it.

Voyageurs de monde for example try to protect its desert accommodation from light pollution by using gaz lamp, and very little electricity which is switched off at night. By doing so the sky is then again dark as desirable for its clientele. Our urban society in a perpetual gloomy light is in search of the exact opposite of what was desirable 100 years ago when electricity was implemented, and then came, *La nuit desenchantée* as stated by Wolfgang Schivelbush, where no longer dark forces, and other Draculas could hide. The problem is that happen as some as still begging for electricity especially in desert location. At a different stage of their development, residents of the desert want to lighten the desert while for our old urban society it has to stay as long as possible a place for enchantment that we have lost at home.

Notes and References

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