



**Submerge** Defining Characteristics of Notable Bath Typology

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The act of bathing requires one to disrobe to some degree and submerge into water. Vulnerability inherently follows disrobing, and the architecture of an aquatic center is called to create privacy through enclosure or by creating a *feeling* of a protected environment. We believe the experience of the bath can be heightened by conditioning the bather through disconnection of the outside world and abstraction of light and sounds to reinforce a bath architecture more attuned to recreation, rejuvenation, and relaxation. The Aquatic Center Competition we proposed considers chiefly two examples of modern bathing facilities that construct notable places for bathing, as well as precedents for its site strategy and steel design.



**Figure 1**

Alvaro Siza's Leça Swimming Pools in Leça da Palmeira, Portugal served as an invaluable precedent for our competition entry. At first glance the significance of this project appears to be the use of untouched landscape, as the outdoor bathing pools are formed in the existing terrain of the existing rock formations of the coast (figure 1). However there are many other subtle moves that should not be overlooked. The roof of the buildings that house the change rooms and café is at the same height as the

highway, allowing motorists a continuous view of the coast (figure 4). However less desirable views of the highway from the pools are denied by the same buildings, as well as ones orientation to the highway is blurred much impart to the architect's handling of the circulation route (figure 3). Because the distance from the shore to the highway is relatively short, the bather's views are edited and guided through a labyrinth of hallways and change rooms. The architecture suggests this elongated path is creating the allusion of distance from the highway. From highway grade, the bather is led down into the complex via a gently sloped ramp (figure 2). The highway plane is reinforced by the roof of the complex, and a sensation of descent through this plane simulates submergence under water. Once submerged under the roofline, the bather begins the disconnection conditioning.



**Figure 2**



Figure 3 : Siza Pools in Plan

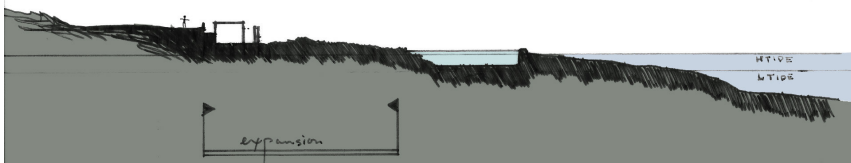


Figure 4 : Section Cut through highway and coastline

Within Siza's enclosed space, the visitor is removed from the sounds of the adjacent highway, and replaced by the silence of the change rooms. Emerging from the change rooms, the sensations of the water are slowly introduced. By traveling along the path towards the pool, the geometry of the angled walls prohibits a view of the Atlantic Ocean, but amplifies the sound of the waves, whetting the appetite for swimming. Rounding the end of the rectilinear masses of concrete, the pools are revealed, forming in pools bound by untouched coastline and concrete walls. By passing through this circulation path, Siza has conditioned the bather by disconnecting the bather from the busy highway, and redirects attention towards the sheltered and poetic pools.

We were entertained by the idea of disconnecting from the world above, and transcending into a mystical world of bathing. Siza's strategy of editing views out parallels the strategy of cathedral architecture, in which in order for a space to become sacred, it cannot be interfered associated with the common world outside. By sinking the proposed aquatic center into the earth, skylights and clerestory lighting denies views the neighboring residential buildings (figure 5). Plans between the precedent and the proposed are similar in their handling of circulation. They both elongate the path to the pool, disconnecting the bather from the above world, while offering glimpses, sounds, and inevitably the clean smell of the pool.

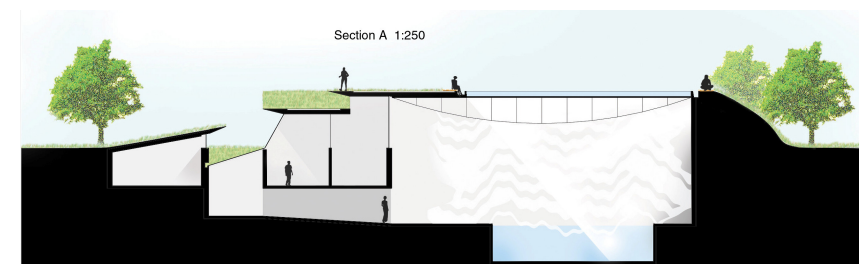


Figure 5

Peter Zumthor's Thermal Baths in Vals, Switzerland recreates many elements of the ancient roman bath. Amenities include a caldarium, tepidarium, and frigidarium (hot lukewarm, and cool pools), as well as a steam rooms, sauna, and showers. Zumthor describes the project with many references to desired sensual qualities. "Right from the start, there was a feeling for the mystical nature of a world of stone inside the mountain, for darkness and light, for the reflection of light upon water, for

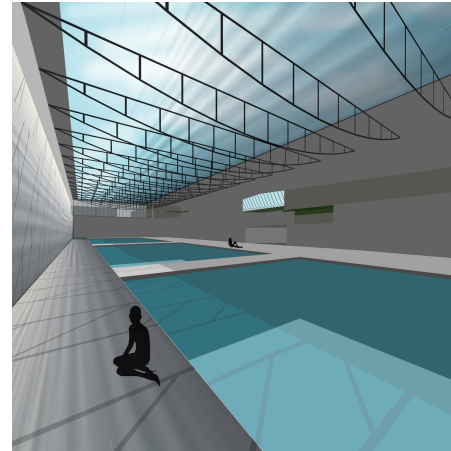
the diffusion of light through steam-filled air, for the different sounds that water makes in stone surroundings, for warm stone and naked skin, for the ritual of bathing." <sup>1</sup> One can imagine the power of the acoustics when all the walls are composed of masonry, with the sounds of drips and running water reverberating throughout the bathing chambers. Soothing water sounds are amplified.



**Figure 6**

As well as sound, the handling of natural lighting mimics qualities of heavy masonry construction, by passing through only a few small openings of the heavily massed enclosure. Natural light filters into the bathing chambers through fissures that cut through the ceiling, as well as concealed artificial lighting (figure 6). Water in the pools is lit underwater, highlighting the movement and patterns of water movement, with refracted light varying the light intensities and distribution similar to light from a fire. The combination of manipulated acoustics and lighting coupled with the sense of enclosure

from the masonry construction produce a bathing facility that is both fortress like, and mystical.



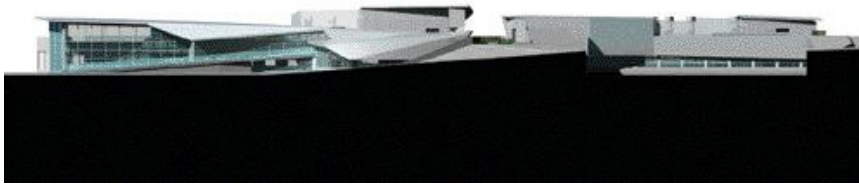
**Figure 7**

Zumthor's project highlights the importance of the sensitivity the exposed bodies and the considerations of an architect designing a bathing facility. It is therefore more appropriate to heat masonry surfaces, dim harsh lighting, and play up acoustics and smells. The lighting in the proposed natatorium is primarily natural light that is transformed through a shallow pond (figure 7). The space will be filled with refracted light, reinforcing the sensation of being submerged. Although opportunities to create intimate spaces similar to Zumthor's Baths were not possible with the dimensions of Olympic size pools, we did find an opportunity to create a poetic gesture inspired by Zumthor at the bottom of the entry ramp. As the bather descends the ramp, the visual and audible sensations of the ground level park are left above, and are replaced by gurgling sounds of a small water feature at the end of the ramp.

<sup>1</sup> Peter Zumthor, Three Concepts



The Trent Science Complex by Stephen Teeple Architects, located in Peterborough, Ontario, is notable in our competition entry for its site strategy. The original Trent campus conceived by Ron Thom was planned at a scale that was not daunting to pedestrians, as well as the surrounding landscape. “Thom is not only a master of siting but stemming directly from this, a master of scale. The intimate and sometimes diminutive scale of his buildings and their conjunctive spaces, as much as anything else, establishes the harmony of the whole composition on the site. Anything larger, bolder or more aggressive would have disrupted a natural setting which Thom has realized is all too tender and vulnerable...”<sup>2</sup> Teeple was tactful when planning the new science complex in the heart of the existing campus. His strategy called for the formation of a new student quadrangle overtop of a large private library. The building is conceived as an eroded landscape<sup>3</sup>, a building that is partially buried with the roof as public space. Burying the majority of the building enabled maintaining views to the adjacent Otonabee River and respectfully maintains the scale of Thom’s existing buildings.



**Figure 8**

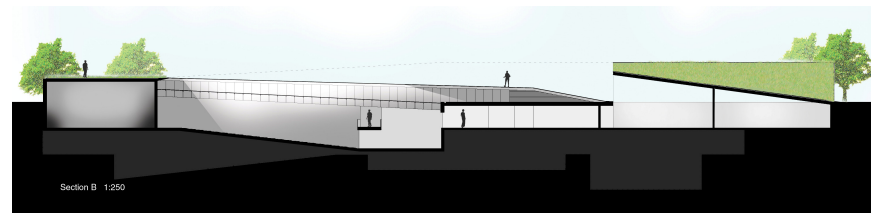
<sup>2</sup> Arthur Erickson quoted, *Canadian Interiors*, 1969  
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<sup>3</sup> *Canadian Architect*, December 2003  
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**Figure 9**

In response to the gentle scale of the neighboring residential buildings, we considered a site strategy inspired by Teeple’s Science Complex. To avoid a large domineering building in the center of a group of houses, we proposed to bury the building and provide a park with a pond in its place. The expressive geometry of the Science Complex derived from the “eroding landscape” also inspired our concept of conceiving the building’s forms from two tectonic plates colliding at a fault line. The earth folds and ripples to reveal a ramp that leads to a subterranean world and the visitor descends a ramp into the earth (figure 10). The dramatic acute angles of the fractured earth, similar to Teeple’s building, are to be realized in steel detailing.



**Figure 10**

The work of British architect Nicholas Grimshaw influenced our steel structure, most notably his British Pavilion for Expo '92 in Seville, Spain. To counteract horizontal live loads on the perimeter walls of the building, Grimshaw incorporated inverted bow trusses (figure 11). The building was designed as a kit of parts, and trusses are pin connected to reduce the need for on site welding. Their detailing has been refined such that they are used as on a decorative but functional façade.<sup>4</sup>

In our competition entry we utilized this truss member in the natatorium chiefly for its delicate profile (figure 12). The member running along the bottom of the truss carries the tensile load, and can be constructed using a small diameter steel member or cable. The delicate profile of the inverted bow truss minimizes the obstruction of the skylights, as well as provides minimal visual intrusion into the space. In keeping with the sensitivity towards scale within our site, we chose our steel detailing to reflect this as well. Steel structure is used quietly as tapered roof edges, or concealed within drywall enclosures, but allowing the flexibility of an expressive roof geometry.

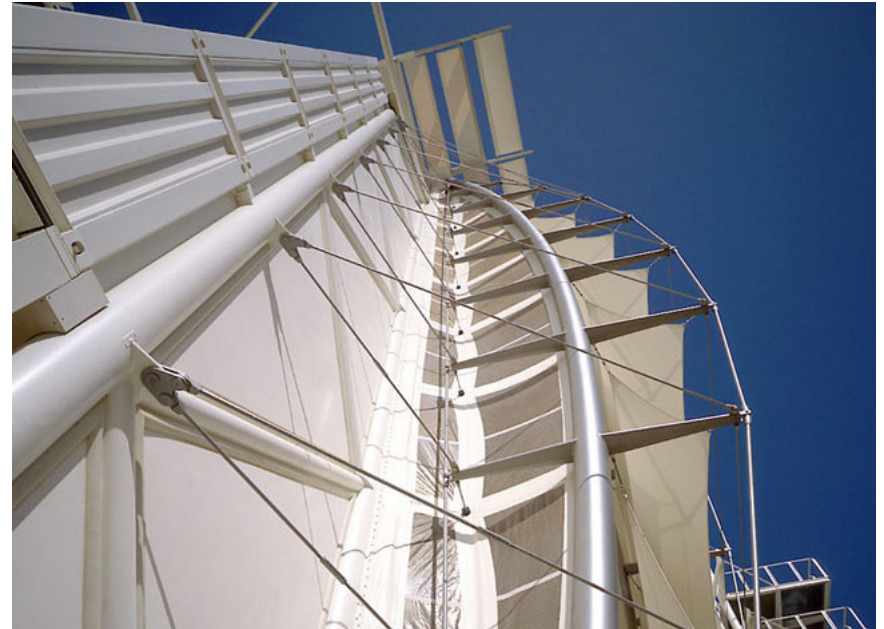


Figure 11

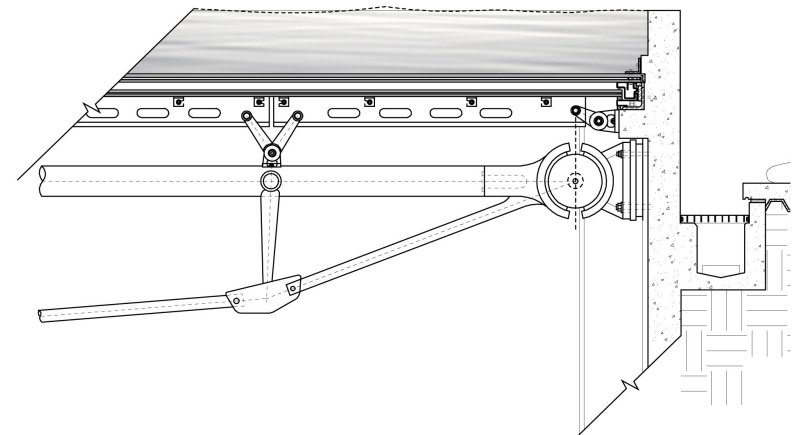


Figure 12

<sup>4</sup> <http://www.grimshaw-architects.com/>

Although Siza and Zumthor's projects were realized in masonry construction, echoing materials from ancient roman baths, we were challenged to recreate this typology embracing steel. How then is steel to be used within a typology rooted in masonry construction? Early proposals for our design challenged the limits of steel design with soaring structures and daring cantilevers, but ultimately we found these would dominate the smaller scaled residential neighborhood.

The proposed entry uses steel to produce an architecture that attempts to be invisible. This aquatic center hides beneath a park, and specifies a delicate truss system that does not visually dominate the glass structure it supports. Through the architectonics made possible by steel, we have been able to recreate elements derived from our precedents. Bathers descend into a world that abstracts light and views, and disconnects them from the world above, nurturing the sensation of protection for their exposed bodies. The mystical world created in the natatorium removes bathers from the grind of everyday life and submerses them into a world of recreation, rejuvenation, and relaxation.

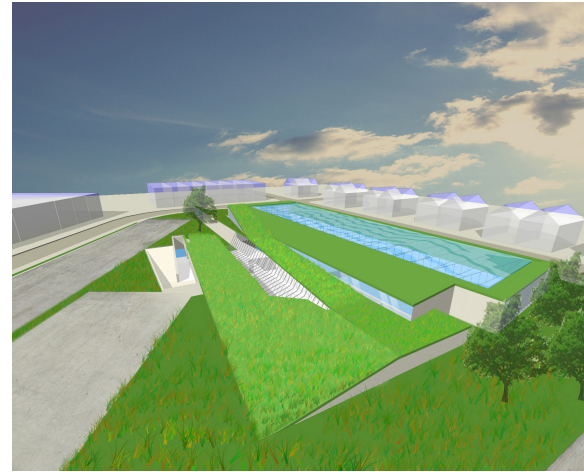


Figure 14

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