VANADISLUNDEN

A closed swimming facility is already located on the site today, Vanadisbadet, built in 1938 by functionalistic architect Paul Hedqvist. It was operating until 2007 when the pools and maintenance of the bath were in such bad condition it had to be shut down. This facility was an open-air area, which could only be used in the summertime. The original dressing rooms were rebuilt into a hostel since the bath was closed down, and is now running until further plans for Vanadisbadet can be determined for sure.

Vanadisbadet is of great importance to the surrounding neighborhoods that are lacking a proper bath- and recreation facility in the vicinity. The new structure in Vanadisparken will serve all of Vasastaden and the new neighborhood of Norra Stationsområdet, that will host 20,000 inhabitants and several workplaces. Stockholm city has been pushing the idea of making such a facility available near Norra Station since facilities for recreation and sports are missing in the plans for the new district today.
Located on the southern slope in Vanadislunden, the old structure has been inserted into the rocks of Brunkebergsplassen in a one-story slab of dressing rooms, creating a big platform for the exterior bath. Angled to face the south-west, the structure’s location gives good exposure to sunlight throughout the entire day, which is important for the exterior bath during the summer. From its position there is a feeling of being on a rooftop terrace with the exclusive view of the city’s rooftops in sight. The terrain is quite complex and in some places very steep. A high rocky wall is embracing the site from the north, lavishly covered in vegetation and providing a space protected from wind, easily heated by the sun.

To preserve these qualities the majority of the building mass is pushed north in the buildable plot, keeping the location for the exterior bath in its existing place. The complex will be located in a slope previously used for sunbathing in the grass, replaced with vegetated terraces to dwell on instead. The aim has been to integrate the building with the terrain and create an artificial landscape of terraces connecting it both to the upper park and to Sveavägen below. The impressive view is something desired to preserve, so the new structure will not rise above the level of Vanadislunden. An unblocked sightline is kept and parts of the new roof can be used as lookout points. The view is also an important feature in the main interior pool hall.
TEXTILE MANIPULATIONS : PERFORMATIVE STRATEGIES

Stretching
Structural supports: The pleats are pulled and stretched to transfer loads from ceiling to floor

Absorbing
Landscape contact: Vegetation is absorbed into the capillaries of the pleats

Shredding
Skylights and window partitions: Pleats are sliced, pulled apart or pulled down

Pinching
Water contact: Pleats are pinched together in bundles, expanding a pocket with water

Ironing
Exterior pathways and interior floors: Pleats are ironed flat to encourage movement across the terraces

Aligning
Building contact: Existing architecture influence the pleats and force them to straighten their curvature
MATERIAL AND EXPRESSION

How can principles found in textile behaviour be translated into architectural expression? How can a rigid material be perceived as soft and flexible?

The point of departure in this project was to study textile architecture and with that came the question: will this thesis focus on actual textiles or the textile expression? An object can belong to one material category physically while it can belong to another stylistically, depending on how it is crafted. For instance a mosaic, which is a ceramic material but depending on patterning or technique can resemble a fabric or tapestry. The main question came to be: how can a textile experience be created from a static material?

Studies were made of various textile techniques for creating elasticity, such as ruffling, pleating and smocking. The pleating was chosen because of its simplicity, then modelled digitally. Starting from this simple pleated surface, small manoeuvres like scaling, flattening, pushing and pulling, were made to dissolve this rigidity to something soft and pliable. From that point the pleats could be adapted to different purposes, for example when pulling them apart to make pockets for water or flattening them for pathways. Having a texture from the start and letting it be a driving force in the design of the building.

ARCHITECTURE AND TEXTILES

Architectures relationship with textiles has historically been neglected in the central theories of architecture. This in spite of it being such a critical conceptual and material dimension in for example Asian, African, mobile and vernacular architecture. ‘Textile’, ‘technology’, ‘texture’ and ‘context’ are all derived from the same proto-Indo-European word ‘tek’. Which is the root of the word ‘architecture’. ‘Technology’ and ‘textile’ are also derived from the Latin ‘textur’ which means to weave, connect and/or construct.

The two disciplines of architecture and textiles have converging flows of ideas, creating hybrids that occur when joining the two. The increasing ‘architecturalisation’ of textiles and ‘textilisation’ of architecture are more architectural ways of thinking and doing textile design, and a more textile way of thinking and doing architecture.

A starting point in beginning to materialise the collision between textiles and architecture is to focus on qualities and concepts transferable from textiles to architecture and vice versa. Looking at key properties from the textile realm show that they can be; soft, elastic, convoluted, networked, continuous, dynamic, variable, woven, latticed, folded, adaptable, tensile, pneumatic, pleated, creased, knotted, pliable, porous, veiled, patterned, flexible, enveloping, protecting, light and strong.
Existing site conditions

Overview from north-east
External and internal zones

Circulation and program

Level 4  1:800

Vegetated terraces
Emerging from hillside
The "Fin": a structural support pulled from the ceiling

Glulam grillage

Prototype model of section slice
CONSTRUCTION

The structure consists of a glulam framework that functions like a grillage, transferring loads the shortest path across the grid to the "fins", the structural supports. This results in an airy construction with lots of room for installations such as lighting fixtures, ventilation, electricity etc. A lightweight construction is also to prefer considering the extra loads from the pockets of substrate and vegetation on the roofs. The structure is clad with oak panels in the interior and a layer of poured concrete externally.

The beams are double-curved and manufactured with digital technologies, such as a 5-axis cnc milling robot. This is a much faster and more precise way of creating double curved beams than with previous methods like steaming or bending. In the digital process one is also able to mill notches for crossing beams. It simplifies the assembly of the parts since they can snap together with a perfect fit. Even when bending steel one can not get the same level of precision, the bending radius of the material limits the result.