U L M PAVILION

BY MAX BILL





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CHAPTER I: INTRO





Max Bill was born in Winterthur on 22 December 1908. He grew up in an enviroment where art, as described by himself, was "somthing natural". Two of his uncles were painters, from the generation after Giacometti and Amiet. At a young age, his father took him to the exhibition "self-portraits of Contemporary Swiss artists" where the creative mind of Max Bill began to unfold. From an early age, Bill was often visiting his mother's father, a colonel in Bruge. The grandfather was showing him models for a military bridge building, an experience that made Bill curius about bridge building and their use of material later in life.

At the age of 16 ,Bill applied to the School of Arts in Zurich. Here he practices as a silversmith influenced by exhibition by an hallmaker. During the years at the at school he came in contact with several extraordinary personalities and he would also make his first interaction with Le Corbusier's architeture.

In 1927, after being expelled from the school, he attended a Le Corbusier's presentation aspiring him to be one of the "young rationalist". Subsequently he decided to apply to the Bauhaus.

The years at the Bauhaus were really fruitful; here he had the possibility to keep learning about metal working under the supervision and teaching of Moholy. He also took part in the lessons of the painters Mondrian, Kandisky and Klee.

After finishing his studies in 1929 he traveled around Europe and got in contact with several artist of the scene.







Max Bill worked on the two fronts of the visual arts with a similar approach but with different and distinctive results. He was a leading artist of his time and had a remarkable influence. He is consider one of the founders, if not the first animator, of the genre known as concrete abstractism.

His debut as a painter touched different members linked to the Bauhaus, especially to Paul Klee, who had a clear interest in abstract geometric compositions and color interactions.

From the compositions of the forties, clearly anchored to De Stijl, Bill approaches his personal style, searching through sometimes divergent attempts. From this period it is recalled a painting like "Unlimited and limited" from 1947, realized with spray technique, different from the following ones.

It is at the end of the fifties that his painting reached a point of full creativity. His paintings are expressed in small and large canvases spun from simple geometric surfaces, rectangles and triangles, with juxtaposition of primary colors. Bill was a tireless experimenter of compositions that, beyond a superficial vision, demonstrate the infinite versatility of abstract art. The preferred pictorial technique was a spatula application. This was to obtain smooth surfaces, which in the case of Bill come to such extreme technical refinement where his hand-made techniques barely differed from prints and digital works. His paintings where particularly suitable for expressing himself through the screen printings he produced in considerable quantity. His pictorial work "Strahlung aus Durchdringung", 1966–1969 is preserved in the Cantonal Art Museum of Lugano.







THE ARCHITECT

His work as an architect began with the Central European Functionalism, but evolved towards a peculiar interpretation. His contribution can be identified as an extreme and rigorous essentialism, which gives little to the outward form. In some ways, his works anticipated the minimalist trend of the eighties. The architectural works of Max Bill were not many, but always the result of great study and reasoning. The following is a list of his best known works:

- 1932-1933 the first Atelier House in Zurich, Hoengg district, built with prefabricated concrete parts. .
- 1942 the second Atelier House in Zurich, Bremgarten district.
- · 1951–1956 School complex of the Hochschule für Gestaltung in Ulm (also called HfG–Ulm). This was certainly his most famous architectural work and so remains today.
- 1952 Project for the monument to the unknown political prisoner for the competition of the Institute of Contemporary Art in . London.
- 1955 Pavilion of the city of Ulm at the Stuttgart exhibition. .
- 1957 Cinema Cinebox in Neuhausen.
- 1960–1961 Fleckhaus house in Odenthal. .
- 1962–1967 Reinforced concrete bridge in Lavina Toebl (in collaboration with the engineering firm Ros).
- -1964–1974 Extension of the headquarters of the Swiss National Radio, in Zurich (in collaboration with Willy Rust).
- 1967 1968 his last home atelier and residence in Zumikon. .
- 1980 Project for a Museum of Contemporary Art in Florence, (in collaboration with Willy Rust). .
- Bill also designed the staging of many exhibitions including the one he himself edited: Die gute form, in 1949 in Basel.







ΤΗΕ

Like his architecture, the objects were based on the principles of Functionalism. As a designer and artist, Bill sought to create forms which visually represented the New Physics of the early 20th century. He wanted to create objects so the new science of form could be understood by the senses, a "concrete art". Thus Bill is not a rationalist -as is typically thought- he is rather a phenomenologist: one who understands embodiment as the ultimate expression of a "concrete art".

He made spare geometric paintings and spherical sculptures, some based on the Möbius strip, in stone, wood, metal and plaster. He designed many object, some of which have entered the "cult-design" of the twentieth century, most noticable his many watch designs from German watchmaker Junghans. The following is a list of some of his most famous designs:

- the "Patria" typewriter of 1944, artisan production
- the 1949 three-legged chair, handmade production
- the three-legged table of 1949
- the kitchen wall clocks with timer from 1951, Junghans production, in collaboration with Ernst Möckel
- the two-height stool called Ulm (internationally known as (DE): Ulmer Hocker), desWigned for the HfG in 1954, in collaboration with Hans Gugelot
- office wall clocks from 1961, Junghans production
- the wristwatch of 1956–1962, Junghans production
- the square-round table of 1949–1960







ΤΗΕ SCULPTURER

As a sculptor, Max Bill took an approach similar to his pictorial. He was attracted by complex geometries since the thirties, producing bodies twisted in space. The techniques used differs widely and range from brass to stone. Each technique, however, produces a different adaptation of ideas, as can be seen by comparing the metal and granite versions of "Kontinuität".

"The latter" is perhaps his most famous sculpture, repeated in several variations, which expresses a complex shape, similar to a Möbius strip. In the years of maturity Max Bill received public assignments to create large-scale sculptures. In this creative area the following achievements are cited:

- the Albert Einstein Monument of 1957–1982, in the pedestrian area of Ulm
- the 1983 Pavillion-skulptur in Zurich, between the Bahnhofstrasse and the Pelikanstrasse
- the 1983 Kontinuität in Frankfurt, for the Deutsche Bank
- the polychrome obelisks Bildsülen-dreiergruppe of 1989 in Stuttgart, for the headquarters of the Mercedes-Daimler-Chrysler





THE SCH (

In 1944, Bill became a professor at the school of arts in Zurich and in 1953, alongside Inge Aicher-Scholl and Otl Aicher, he founded the Ulm School of Design in Ulm, Germany. The design school was initially created in the tradition of the Bauhaus, but later developed a new design education approach integrating art and science. The school was notable for its inclusion of semiotics as a field of study. The faculty included students as Tomás Maldonado, Otl Aicher, Josef Albers, Johannes Itten, John Lottes, Walter Zeischegg, and Peter Seitz. The school closed in 1968.

Bill was a professor at the Staatliche Hochschule für Bildende Künste Hamburg and chair of Environmental Design from 1967 to 1974. During this time he became an associate member of the Royal Flemish Academy of Science, Literature and Fine Art in Brussels. Later, in 1976 he became a member of the Berlin Academy of Arts.

In addition to his teaching, Bill wrote and lectured extensively on art, architecture and design, appearing at symposiums and design conferences around the world. In particular, he wrote books about Le Corbusier, Kandinsky, Ludwig Mies van der Rohe, and artistic theory.





IYOX Born 22 December, raised in Winterthur, Switzerland

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IZAI Constructs a courtyard with fountain in Berlin 1758 Elected to Member of Zurich's city BSA, parliament association of Swiss Construction architects of office building Albert 'Imbau' in Einstein Leverkusen, Monument Germany IYLO ıγáz Exhibitions Construction 'Konkrete of radio studio in Kunst, 50 Jahre Zurich Entwicklung Organises 'Dokumenthe tation über Vantonger-Marcel 100 Duchamp' exhibition in London Construction of Reinforced Lichtdruck concrete AG, Dielsdorf bridge in Lavina (prefabrica-tion) Toebl (in collaboration with the engineering

firm Ros).



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			IVXX				Switzerland		pavilion
			1000 VA 100				GC 155-551 CM		sculpture
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			in the Premio Marconi in Bologna						
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1785 Two sculptures in Tel Aviv Delivery of two sculptures in Berlin		IVX7 Design of a Swiss five-franc- coin to mark 100th birthday of Le Corbusier		IVXV Solo exhibition at Kunsthaus Zurich Konstruk- tive und Konkrete Kunst,		lyyı Stage set for the play 'Herkules und der Stall des Augias', by Friedrich		1997 Creation of Movado watch Presented with the 'Nobel Prize for Art': the fifth	
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exhibition in				Disperturely			ar the		IN
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				-Möhringen	1	Exhibition			
				-Möhringen	1	Exhibition at Case			
				-Möhringen	1	Exhibition at Casa Rusca			
				-Möhringen Polychrome obelisks	2	Exhibition at Casa Rusca, Locarno			



CITY&HISTORY







ULM CATHEDRAL

Ulm had its very own parish church just outside the city built by the gates of its walls. As the area was under constant conflict at the time, the inhabitants had difficulties making trips to the church and hence a new church was commissioned by the citizens themselves, even providing the funding. The first brick of the new church was laid on June the 30th in 1377 by the mayor at the time, Ludwig krafft, that would start a 513-year journey to the completion of the Ulm Cathedral.

The cathedral, located in the city's center, acts as the main attraction point, bringing people in from all directions. It is a large centuries-old gothic church completed in 1890 with a current Lutheran denomination. It is considered the chuch until the completion of Sagrada Familia. Thirteen bells, three spires, and a 161.5m high steeple are just a few aspects that make this church a work of art. Arguably the highlight of the church is its magnificent views from its steeples to the entire city of Ulm, a 768 step walk providing a majestic bird's-eye panoramic view.





CHAPTER II: ANALYSIS



IEW S

The pavilion was situated in the Baden/Württemberg Exhibition in Stuttgart designed by the Ulm commissioned architect Max Bill. The program for the small architecture was to show the city of Ulm to visitors as in a view from the tower of the Ulm cathedral towards the four cardinal points (north, south, west, east). To achieve this, the center of the pavilion is a replica of the city's tower and the four big panels attached to each side shows images of the city making an illusion of being in Ulm.

A plate was installed just below each photo, explaining characteristic aspects of the district, described with colored illustrations about culture, civic institutions trade, transport, agricultural production.







ANALYSIS PAVILION

The Pavilion of Ulm is strategically located in a heavily vegetated cliff, whereas you enter in the west by a guided path. To encourage visitors to concentrate on the pavilion's intentions it is surrounded by a group of large trees. As previously stated the focus was to show the city of Ulm by four images each directed towards a different cardinal point. Its location in the Baden/Württemberg Exhibition allowed the architect to position the facades' directions according to this. The placement on a cliff serves to provide a similar sensation of being on top of a tall cathedral.



ANAL Y SIS



S I T E Hypothesis



The Pavilion was located in the Baden/Württemberg Exhibition in the year 1955. As the exibition was temporary and no concrete map of the site was found, the area has been analysed to find possible sites for the structure. The proposed locations, seen on the original urban map of the same year, is based on the knowledge gained from the plans, sections and written sources. It was placed inside the city borders of Stuttgart, and by studying the orginal pictures, plenty of natural vegetation is seen. As the site was temporary it is safe to assume the trees were not planted but already exsisting. From the plan it can be seen plenty of space around giving into the idea of the architect being able to place the plot according to his preferences. Lastly, the section shows the topography is quite steep. The entrance is on the highest level to the west and the ground decends aruptly leaving the structure with different levels to the east.To sum up the hypothetical locations it is suggested all have natural vegetation with areas of alteration in the topography and inside the city bounaries of Stuttgart. Attached on the urban map of 1955 at the top right the proposals can be seen. The ortophotos below show Stuttgart from the same year,







SYSTEMATIC GEOMETRY



Ulm Pavilion is made up by simple geometric shapes. The architect uses sets of multiple squares to form larger ones or in other cases they are distributed linearly to create rectangles. As he does in his art work he plays with subtraction and addition of shapes to the object. Looking at figure A and figure B the same use of extrusion and opening of corners can be seen. The geometric artwork "Twins, no 9" looks identical to the floor plan.

The same use of shapes gives Bill an almost symmetrical result, disturbed only by the entrance to the west. Adding the extra square, following the set module, he allows for the longer rectangular segment to fit the plot but breaking the symmetry.











CREATING MOVEMENT





Entering the Pavilion the viewer are automatically drawn to the path the architect has intended. The subconscious will follow the continuing wooden floor with straight panels going ahead covered by the roof. Here, the first panel is found. Moving on, arriving to the open corner, the flooring changes and directs the spectator perpendicularly to the next panel. In this way Bill is making corridors, forcing a circulation around the pavilion to see all the panels, restrained by the panels on the left extreme and the handrail on the right in addition to the covering roof above. An important notice is his use of subtracting elements to not make it feel like a confining space. Places he cuts the handrail or panel to open the space creates transparency making it more breathable. The planks changing direction following the module creates movement.



STRUCTURAL ANALYSIS

The Pavilion of Ulm is a light-weight frame structure with a grid of wooden columns dimensioned 0,1304m. To further support the loads, additional columns are added in the middle extremes, creating four points with double pillars. This extra support also translates to the beams under the pavilion giving in to the idea of always following the same homogeneous system.

The secondary beams is repeated in the same fashion both under the flooring and at the roof structure. The columns are placed at the outer perimeters of each main square where the different floors from the module intersects. These make up the two ends of the covering roof they are securing. The main beams on the extremes at the roof is covering the secondary, making a continuous line with the structure. In the middle, the column is replaced by the replica of the Ulm tower.

Another interesting aspect, and something hard to acknowledge at first glance is the overlapping roof structure. Also this is light-weight supported by the structural columns. By working with overlapping rectangles the Bill is able to create a ever-changing surface. This also improves the path of rain-water allowing it to slip to the gutters that is protruding out of the structure. Again, the geometric module from the flooring is repeated on the roof. Behind every panel Bill presents two trusses on the back facing the exterior for supplementary security. Most importantly his structure is completely visible, a path he selected for most designs in his career.





TEMPORARY Structure



Max Bills choise of material was caused by the fact that the pavilion was a temporary installation. The use of untreated wood allowed it to be build rapidly with minimal manpower and also making it easy to deconstruct. As mentioned, in the structural grid the main beams are doubled where the loads are concentrated. This way of constructing is a direct result of working with wood as a material with the additional demand of making it easy and simple. Instead of creating a complex shape where the pillars meet the beams he uses the same plate twice on either side making a simple and rapid connection.

As seen with other of his works, Bill usually operated with natural materials such as concrete and wood. Looking at The College of Design in Ulm, that he finished the same year (1955), the exact same materials as in the pavilion can be found. Likewise, he carefully show the materials properties without altering the colour or finishing. The difference being the school is not lightweight, it was built to be there for a long time in comparison to the Pavilion. Its safe to assume that if the temporaity of the pavilion was not the case he would also use concrete.

CHAPTER III: DRAWINGS









ROOF PLAN SCALE 1:75









SECTION SCALE 1:75





ELEVATION SCALE 1:75







CHAPTER V: INDEX



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