

TOTAL FORM'89

EXPLORATION OF OBJECT INTEGRITY IN WORKS OF HERZOG & DE MEURON

By Alina Shegay

ABSTRACT

This paper investigates the works of Herzog & de Meuron studio from the late 80s - early 90s. The office from Basel was treating each of their projects individually, experimenting with the potential of commonly used building materials. Their extensive collaborations with artists have impacted the design method, where the notions of object's integrity is revealed through the Materiality, Elements arrangement and Ornamentation. Each of these subjects are discovered individually, based on three relevant case studies. The approach of Herzog & de Meuron also derives from natural motifs, where the harmony and wholeness of their projects is found. Bringing the properties of metaphysical prerequisites adds on duality, ambivalence of perception, so commonly observed in various conditions. Simplicity of appearance in every chosen volume is balanced out by the precise usage of materials, which in their minimal arrangement, form the architectural object as a whole. An additional layer of imprint techniques, brought by the studio, as well as revealing ambivalent nature of material, has made the studio from Basel way ahead of their time.

Vertiefungsarbeit
In-depth Study

Total Form'89

Exploration of object integrity in works of Herzog
& de Meuron

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1 INTRODUCTION

In the conundrum of global events, happening around 1989, and on the European continent specifically, Switzerland was focused on its own agenda. The country, unlike its' neighbors, had a continuity¹ of various processes, which were not disrupted by the devastating wars. At the same time, due to this fact, there was no common foundation for making new architecture. Local architects, despite being in a relatively compact and small country, found and developed different ways to execute their works. They experimented with new techniques, materials, sometimes implementing art into the process or treating the building itself as an art object. It was relevant in Switzerland, due to the economic boom and overall calm environment at the time, since it did not have to rebuild a radically new ideology.



Abb. 1. Vast landscape for bold moves and dimensions.

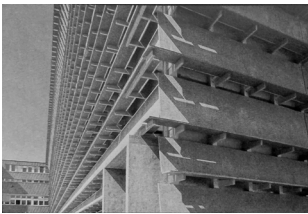


Abb. 2. Stacked facade of Ricola Warehouse in Laufen by Herzog & de Meuron. 1986 - 1987.

The process, which implied thorough understanding and numerous trials in the design phase, may relate to the idea of *Patient Search*², common for Le Corbusier method, when architecture is developed in a slower-paced manner. Having started earlier, during the 80s, theoritization and socio-political ideas inevitably influenced the architectural movements in other European countries, giving a start for Post-modernists, post-structuralists, etc. However, Swiss architects still treated their buildings as a uniform object, which was to be developed in itself, without added on ideological ideas or too many socio-theoretical constructs. Here, the "Patient Search" is allowing more thought-through ideas to be developed and realized, leading to a potentially more mature execution.

From the beginning of research, I found that no major change happened here, which would potentially drive the development of styles and new architectural language. Therefore, I shifted the focus onto the details, the ways local architects achieved the bold, uniform representations of their works. They may seem simple but far from being banal – Kirchner and Liner Museums by Gigon Guyer, where simple shapes of bare concrete creates a luminiscent space for exhibiting artworks; the Central Signal box together with a few Ricola buildings by Herzog & de Meuron represent versatile, clean and edgy structures.

Overall, Swiss architecture stands slightly aside from one in other European countries, derived from local vernacular and precise craftsmanship. Still, local approach was different from a classic understanding of Neues Bauen, where prefabricated elements were also assebled in the building structures. However, unlike them, architecture in Switzerland in the late 80s was not focused solely on being pragmatic and rational. Nor was it focused on the human needs for social engagement, who used to be the central figure in, for example, Structuralists movement. What makes local architecture so special and how this versatile simplicity or, at times, "nudity", may be deceiving, we will discover further on in this research.

1 Notion described by Martin Steinmann in *AV Monographs 89. 2001. Swiss Matter. p. 7.*

2 Le Corbusier *Creation is a patient search. 1960.*

1.1 METHOD

In this paper, I would like to explore, what specifically makes a building integral or uniform in its physical and metaphysical sense. To focus on one architectural language, I chose three works of Herzog & de Meuron. I will conduct the process based on three main aspects: Materiality, Ornamentation, and Elements. Each of them, based on my findings, are key to this specific office in shaping a building as a whole, total form. Based on one project for each of the terms, we could get more in-depth with understanding, how in the design process various pieces were chosen and applied in a way that they would create a special effect or perception. Thus, for Materiality, Elements and Ornamentation, we would explore Ricola Mulhouse, Central Signal Box and Eberswalde University library accordingly. Although it is an explorative research, in the end we may find out, what makes the projects by Herzog & de Meuron of the 80s-90s ahead of their time, so we can still relate to them to this day.

2 SWISS ARCHITECTURAL CONTEXT AROUND 1989

As mentioned, Swiss contemporary architecture cannot be defined by one style or one movement. Every studio or individually operating designer was influenced by the school and teacher, which also varied from one region to another. Many of them were educated at ETH in Zurich, and the big concentration of practices took place in Basel. Yet, if we take a look at what was executed in the southern parts, such as Graubünden, we would see different expressions by such figures as Peter Zumthor, Gigon Guyer and others. One of the renowned Swiss architects from the same decade, Valerio Olgiati, claimed:

"When you are surrounded by the physical mass of these mountains, decisions are more simple, more direct".

Abb. 3. Schoolhouse in Paspels by Valerio Olgiati. Bold concrete volume contrasting with the natural context.



He is also an advocate for "every building as a single theory", as well as "making a rational organic whole"³. In this framework, removing one element will lead to breaking the structure together with its' narrative apart. This approach goes like a red thread through the works of different Swiss architects. Sometimes, the manifestation is less profound and more subtle, yet this is the starting point, which sparked my interest in defining a building as a whole being.

3 Excerpt from the interview of Valerio Olgiati for ICON. 14.08.09.

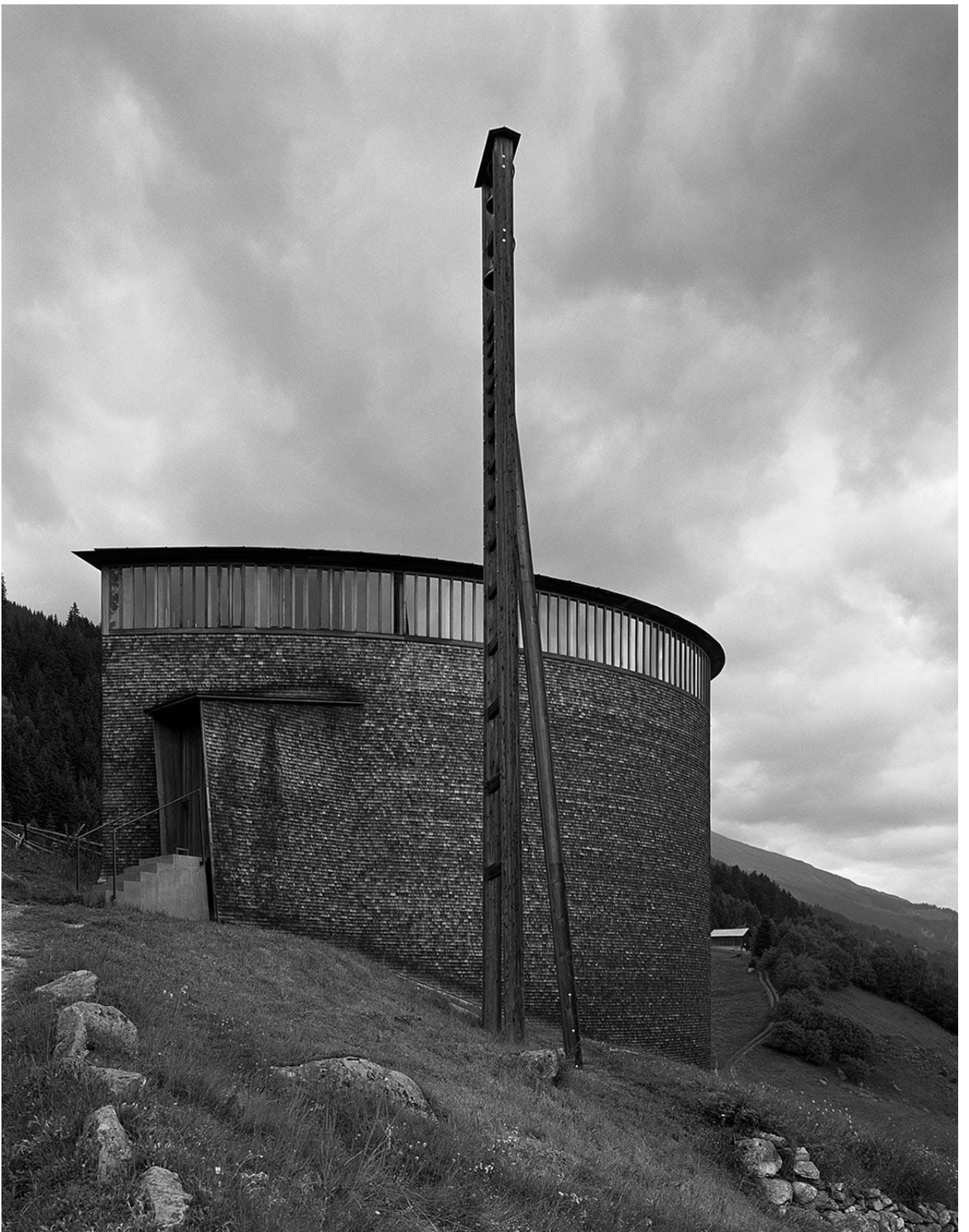


Abb. 4. Kapelle Sogn Benedetg,
Sumvitg by Peter Zumthor. Recon-
struction of 1989. Graubünden.

It fascinated me how in the end of 80s Swiss architects designed buildings ahead of their time, in terms of expression, material choices and form precision. Some of them tried to combine art with the rational engineering, which is widely discovered in the book, edited by Philip Ursprung 'Naturgeschichte'⁴. It is a catalog of repetitive, experimental search of form, patterns and spatial design decisions, derived from nature or our everyday surroundings, on the experience of Herzog & de Meuron. They took inspiration from non-material notions, like movement and the wind, trying to grasp it in physical representation of their projects. All of the constructive elements help to shape an integral object, where every component is assembled in a special way. Removing one of them would equal destruction of the entire composition as well as perception of it as a whole. This is one of the examples of how architecture in local realities was not just about precise craftsmanship and execution.

Abb. 5. Interior of St Benedict chapel with the clerestory windows by Peter Zumthor.

Abb. 6. Wooden shingles, wrapping the structure's exterior.



Peter Zumthor, for instance, from the beginning of his career, was putting high priority onto materials choice and which atmosphere they can create, if "treated with respect". His project for reconstructing a chapel after an avalanche in Sumvitg is a small but prominent intervention, built as a replacement of a former baroque building. It is formed from the stacked wooden shingles in a teardrop shape, which seamlessly outline the volume. The chapel extrudes out of the sloped landscape vertically, looking like a slender tower from the front axis, while reminiscing the ship or a boat from the side view (Fig.4). This form is marked by a band of clerestory lights under the roof, revealing the sky to the prayer (Fig. 5).

The architect exemplified his approach to sensible materials in St Benedict chapel: "Sheathed in larch wood shingles, the surface texture is reminiscent of the shimmering colors of Byzantine mosaics"⁵. There is no direct reference to this kind of art, no clearly expressed connection in visuals. However, the subtle gradations of shades, as each piece gets exposed to the rain, varying from grey to golden color, represents a "weathering effect of time" (Fig. 6). It puts the object into the framework of metaphysical representation, beyond its' purely material realization.

4 Philip Ursprung *Naturgeschichte*. Herzog & de Meuron. 2002

5 Anna Roos *Swiss Sensibility*. 2017. p. 122

In St Benedict chapel project, everything, starting from the constructive elements, material of the facade, interior parts is shaping an integral object, like a piece of art. In his book *Thinking Architecture*, Peter Zumthor states that the hidden structures as well as constructions should be organized in a way that they "endow the body of the building with a quality of inner tension and vibration"⁶. He notes that the violins are made in this precise way, and in their harmony, they "remind us of the living bodies of nature". Nothing is coincidental in this paradigm, thus every part plays its special role in creating a wholeness of an architectural object.

Abb. 7. Kirchner Museum. Materialization in glass by Gigon Guyer. Davos, Switzerland.



Abb. 8. Interior from bare polished concrete. Exhibition halls in a daylight.



I am using the term "object", referring to the notion of art objects, the single exhibits of certain ideas or a story. Although there was no medium to the Swiss architecture as a movement, there seems to be a common expression for many local architects. With the precision on material choice and using a minimal set of elements they were achieving a specific perception or atmosphere. Gigon Guyer realized their Kirchner Museum project in Davos in a similar manner (Fig. 7). The exhibition space is constructed from the bare polished concrete without any added finish layer (Fig. 8). Seemingly simple configuration of rectangular boxes with relatively limited spatial volume are elevated by the natural light, flowing into the rooms through the side windows above the ceiling level.

In this example, again, the simplicity and versatility of interiors are supporting the artworks, for which they were designed. Nothing is distracting the viewer from observing them - architecture is a part of the overall framework. Wholeness of structure is achieved not only via assembling of the concrete walls with the glass of the facades and roof systems but together with the art pieces exhibited inside. Whatever the artwork may be, it is a complementary part of Kirchner Museum, which makes it more refined and uniform.

6 Peter Zumthor *Thinking Architecture*. 1999. p. 19.

3 PHENOMENON OF TOTAL FORM AND OBJECT INTEGRITY

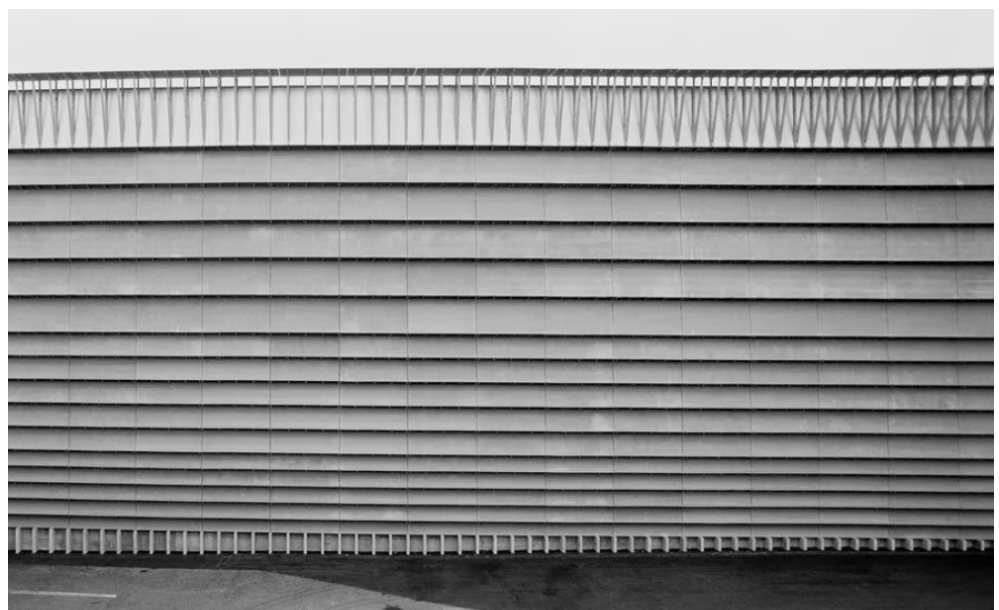
Herzog & de Meuron were one of the forerunners among the Swiss architects, who made local projects acknowledged internationally. Their approach is still relevant to this day, perhaps, also because it is largely derived from the context of nature, intersecting with some fields of art. This connection is going through all the three projects as a silver lining that we will observe in the research. In *Natural History* book we are presented with the series of chapters, cataloguing architects' design process in a continuous manner from the inspiration with non-material to the actual execution. Giving focus to different parts of each project, Herzog & de Meuron manage to challenge a connection between architecture as form of art, as well as part of natural world. For them, each building is not simply functional, nor is it derived from regulations alone. Just like art, architecture is perceived as an object, performing in a setting for the viewer, whose perception is defined by the metaphysical sense of volume as a whole.

Abb. 9. Stack of cement plates, reminiscing the wooden planks. Ricola warehouse in Laufen.

Abb. 10. Shuttered facade out of the assembled fiber cement panels. Reference to the cladded wooden planks in architectonic representation.



Abb. 11. "Structure as an image of local sawmills or the layered limestone in the old quarry that is home to warehouse".



One of the earliest projects by Herzog & de Meuron was a warehouse for Ricola in Laufen. Built in 1987, the object still has not lost its' relevance in terms of material use and innovation. The storage is fully automated and does not require much of a human labor, which may also explain the shuttered nature of the facade. The exterior was treated as an image, a visual board by the architects. In the minimal representation, made from the clad fiber cement plates, it refers to the stacked wooden planks or the layered limestone from the quarry (Fig. 10). Ricola warehouse can be perceived both as an piece of art, related to the specific object and an integral part of its' natural surroundings. It is organically integrated into the depths of landscape, facing the masses of rock in the backside, without dominating the context (Fig. 11).

Perception changes as the visitor approaches the storage from afar. At first, it seems as a monumental whole or uniform structure with no breaks in between the stacks. However, as one comes closer, the layers open up in perspective, revealing the supporting wooden elements, which reminds more of a shelving system. The thin fiber cement plates look versatile and slender, which changes the perception of the closed-off warehouse towards a more light-weight impression. Overall, in Ricola Laufen symbolization is secondary, while the form of a building is "revealed for what it is"⁷. The goal of Herzog & de Meuron was in using of construction components to uncover the underlying structures, where architecture and nature come closer together. Every detail or element matters & goes beyond material interpretation just like art pieces, building can be more than its' function.

Abb. 12. Donald Judd, "Untitled, 1989 (Bernstein 89 24)", 1989, copper and red Plexiglas, ten elements, each: 9 x 40 x 31 in.

Abb. 13. Donald Judd, "Untitled", 1991. Mill aluminum. Five units, each: 59 x 59 x 59 inches. Friedrich Christian Flick Collection.



Collaborations with various artists have influenced the architectural design approach of the studio. Herzog & de Meuron worked directly with Thomas Ruff and Rémy Zaugg, as well as Joseph Beuys, whose works are often referred by Jacques Herzog. Most specifically, the architects obtained some techniques from the fields of photography and video, thus visuals and representation of an architectural object as a whole was important. Still, interpretation of their projects was not a given but it had an ambivalent and changing meaning. This way of thinking and working with materials to achieve varying effect or impression, different from what it was in fact, was commonly applied by another artist - Donald Judd.

His essay on *Specific Objects* in 1965 observed the positions of art in that time. They belonged "neither to painting nor sculpture"⁸, and were characterized by an "especially adequate" use of materials, which were not commonly used in the field

⁷ Quote of Martin Steinmann in *AV Monographs* 89. May-June 2001. p. 5

⁸ *Herzog & de Meuron 1992-1996*. p. 8.

of art in that period. Judd specifically utilized aluminum, cold rolled steel, Plexiglas, red and regular brass, and other materials he marks "specific". By this notion he meant the physio-mental perception of an object, the atmosphere of an industrial that these matters contain, opposed the one in conventional art. There is no reference to anything else but to the objects themselves, which allows an observer to stay present in the sensory space with a freedom of his own interpretation.

Working with Donald Judd has left a trace in practice of Herzog & de Meuron in terms of dealing with materials to achieve a certain level of metaphysical sense. In their projects, the architects, in the same manner, as the artist did, have rediscovered a series of materials, which were not commonly a part of Modernism and its' variations. Usage of plywood, roof paper, natural stone, glass, polycarbonate, helps to experience a sensuality in the materials yet again. A whole series of projects by Herzog & de Meuron are, in this way, objects with the same ambiguity of art form as an architectural strategy.

One of them being a Dominus Winery in California, constructed of stacked stones in a metal cage as a main wall structure, which rested on the piles of freely constructed stones without any mortar. This deceiving effect is unveiling as a visitor proceeds to the building, since from a far distance he may assume that the structure consists of metal plates (Fig. 14). As one comes closer, the material sensibility is revealed – the lurking light, coming through the stone gaps and the walls themselves help the ventilation process, although from a far they seemed so uniform (Fig. 15, 16). For the architects in these terms, the building becomes closer to the object, as it might as well represent a piece of art, given the amount of detailed work and nuances of metaphysical interpretation it took to achieve the effect of curiosity and interest.

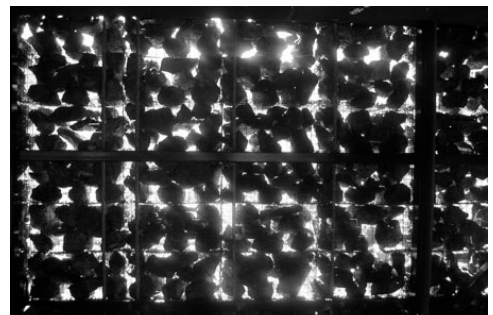
The more the building becomes an object, the more qualities of perception it releases aside from functional purpose, and the less its effect can be described using the standard terminology of the discipline⁹.

Abb. 14. Domus Winery. View from afar. Perceived uniformity. Napa, California.



Abb. 15. See-through facade from stacked stones in metal framework.

Abb. 16. Illusion of structural fragility, enhanced by the daylight.



9 Herzog & de Meuron 1992-1996. p.11.

4 VOLUME AS AN INTEGRAL OBJECT

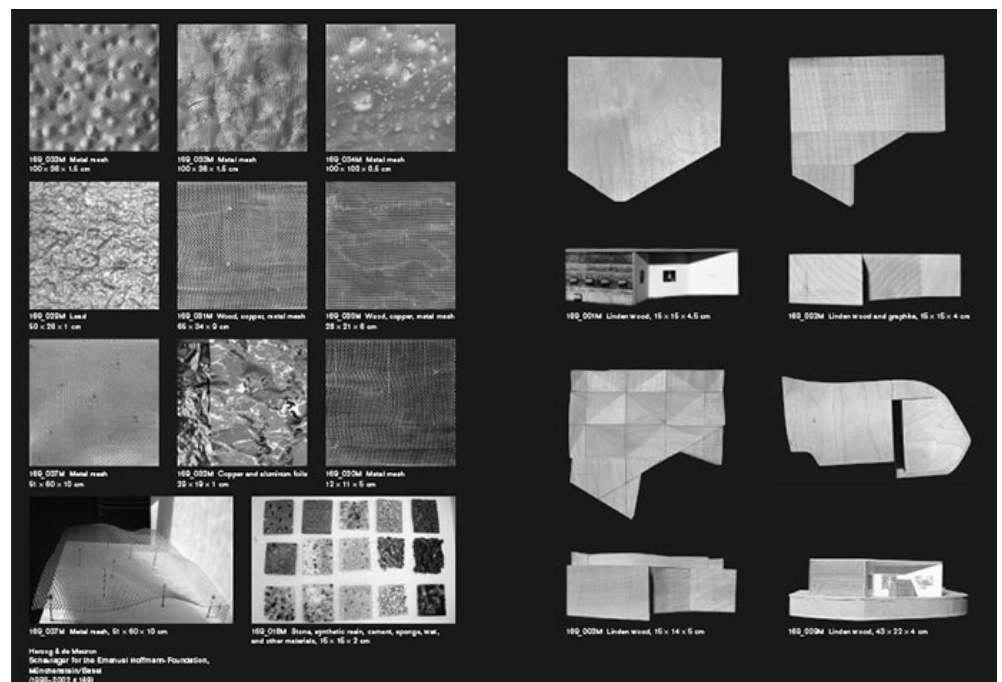
After initial observations, we may sum up the formula of the projects by Herzog & de Meuron: derived from *natural motifs*, their architecture is balancing between the precisely constructed whole and the object of art. Ambivalence is a notion that is present in the office's works, when it comes to materiality and perception, driven by it. From close collaborations with the artists and techniques of applying photography and video imagery to a volume, architects have formulated their unique architectonic language. The movement, the repetition, commonly used in these two fields are added-on metaphysical pieces that help to construct a uniform, whole structure. Quite often, the architectural object might be as simple as a concrete box, while the balance of focus is shifted more towards the visuals.

The innovative nature of Herzog & de Meuron studio is revealed not only in the way they pick and assemble materials when telling a specific story but in how they experiment with their imagery potential. For instance, imprints on concrete, glass, plastic was a central motif, starting from the Ricola Mulhouse and advancing all the way to Eberswalde University library. Metal shell, outlining the body of Central Signal Box in Basel, on the other hand, brings a completely different essence of enclosure rather than introducing a storyline or hinting on the contents, which unveils on the facades in two previous examples.

With their quasi-archaeological tactics, they weave together the simultaneously present materials of everyday reality extracted from the sensory experience of the existing space to create a new, specific whole, which they then evoke through the medium of architecture so that we, too, can "sense" it¹⁰.

To get deeper into studio's approach to forming an integral object in its' materiality and metaphysical representation, I would like to concentrate on three specific notions, which make it whole: Materiality, Elements, and Ornaments. Every chosen case study is carrying different material qualities, yet all of them represent architecture as an integral object.

Abb. 17. Impression Expression chapter. Catalogue of material study for Emanuel Hoffmann-Stiftung, Münchenstein-Basel. 1998-2002.



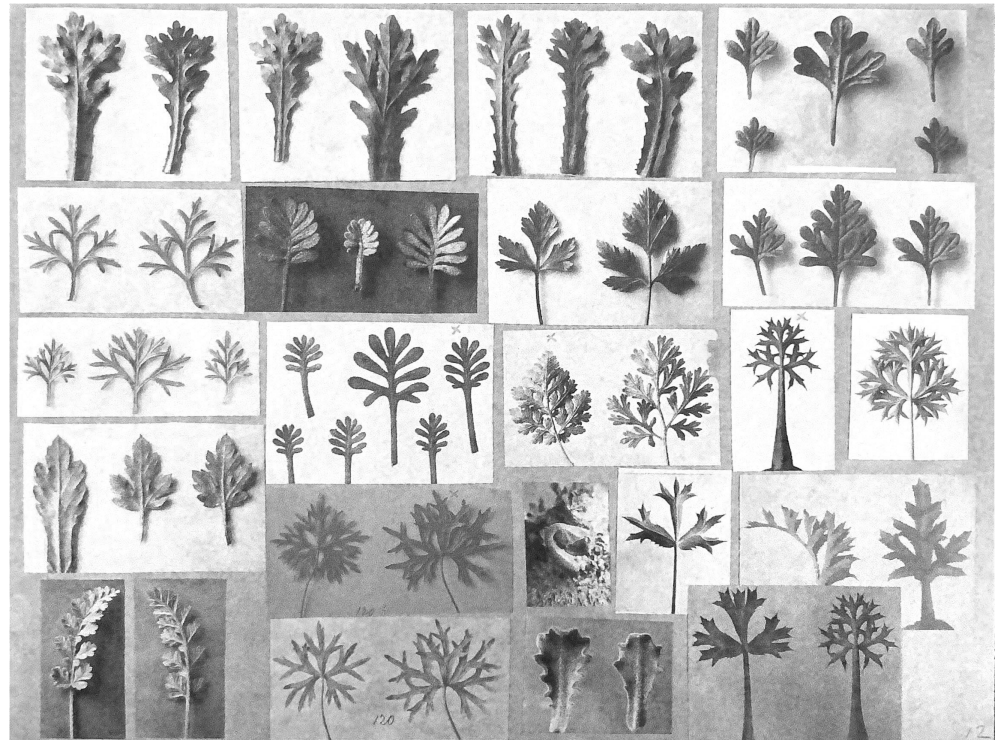
10 Dino Simonetti *Index of The Work of Herzog & de Meuron 001-500*. 2019. p. 5.

4.1 MATERIALITY

Materiality has always been an integral part of architectural design. However, it has reinvented its' relevance recently due to the broad practice of digital fabrication, automatization, which opened up the field for experiment even wider. Given that, works of Herzog & de Meuron were ahead of their time, as architects used technological tools for expressing imagery on the exteriors.

As catalogued in *Natural History*, the process for Ricola Mulhouse started, quite literally, from the organic roots. The architects took inspiration for the production and storage building from plant motifs of Karl Blossfeldt¹¹. His series of photographs of various plants, flower buds were not perceived as works of art at first (Fig. 18). Herzog & de Meuron used one of the herb samples for printing on the exterior of Ricola Mulhouse.

Abb. 18. Eisenhut, Mannstreu und Schafgarbe. Working collage by Karl Blossfeldt. ca. 1900.



When it comes to perception of the building as a whole, it depends not only on the distance, from which it is observed but also on the season, and time. These last notions are adding another layer of metaphysical nature, expressed through materiality of Ricola Mulhouse (1992/1993). The space is created for storage and production of the infamous herbal candies. It is located on the plot with old trees between the Rhine-Rhone Canal and the small river to the south of the city. Since the goal was to make the building flexible in use and easy to divide, it is approached in a similar manner to the warehouse of Ricola in Laufen - the focus is, above all, on the shell of an object.

However, this time, Herzog & de Meuron took a somehow opposite approach. In case of precious project in Laufen, they regarded it as a shuttered down, closed-off shell, resembling a stack of wood, made of fiber cement plates. For Ricola Mulhouse, the studio treated the facade as a dissolved shell, a membrane that filters the light and evokes the visual impression, as an image by itself. This effect is achieved by applying the imagery of the leaf of the Umbel Achillea, imprinted on polycarbonate surface, in a repetitive manner. The print may point to

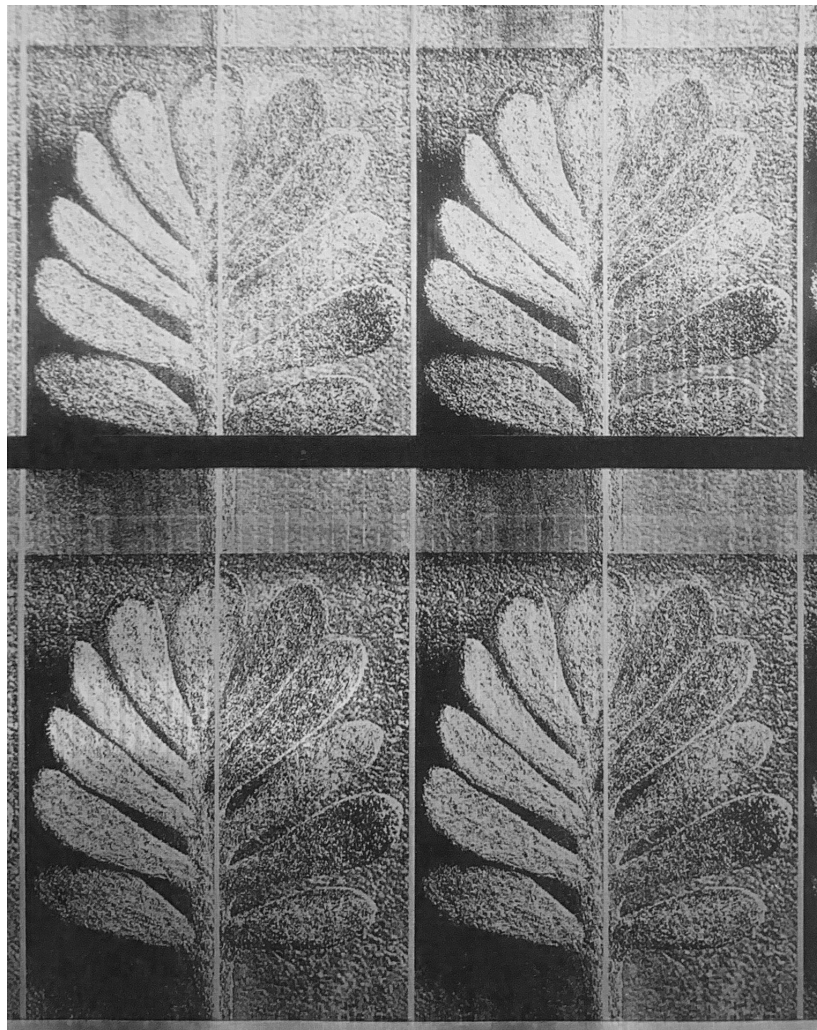
¹¹ Karl Blossfeldt - German photographer, originally trained as a sculptor.

the nature, which provides for the candies, as well as the abundance of trees around the storage. Still, this analogy is intended in a way of photography use in a silk-screen printing in an artificial way. Even though the surface seems see-through at first in the backyard, it still is doubled by the metal plate on the inside, adding on the sheer glowing finish underneath. The graphic look turns out as a pattern, like one on the textile, which makes the surface act as a curtain, a light-weight membrane. It has certain ambivalence, depending on the metaphysical essence it is presented in.

Abb. 19. The facade assembled from narrow strips.



Abb. 20. The leaf motif based on a photograph by Karl Blossfeldt.



Polycarbonate is only used on two opposing sides of the box-looking structure, which may also be perceived as a threshold between the driveway on the front side and the green space in the backyard. It is contrasted both in lightness and transparency by the insitu concrete, forming the side walls and roof consoles in a way of an "opened candy box" (Fig. 21). These walls stand as supporting structures for the more translucent imprinted thin "veils", which possess varying luminosity throughout the day and in different weather conditions. In a way, it becomes a stage of performance for the notions of time, which reveals itself on both material surfaces, unifying such opposite physical structures. A clear example of this can be seen in changing of the concrete surface, which

Abb. 21. Light closes and opens up the polycarbonate wall.



acts as a display or a screen during rain. The patterns that flowing water creates, leave a metaphorical trace of time, which later on progresses into the moss and spores, growing further (Fig. 22). Clear contrast, presented in a dry weather condition, dissolves as the water starts dripping off the concrete wall, "washing off" its matte finish. It starts reflecting surroundings, suggesting on the glass surface or a mirror, bringing it closer to the materiality of translucent polycarbonate walls. Another metaphysical notion, created by materiality of Ricola Mulhouse, are

Abb. 22. The materials come together. During rain, the concrete facade reflects like a glass.



lighting and seeming transparency. Polycarbonate panels change their appearance, depending on the lighting condition inside and outside. The spectrum ranges from almost total transparency of a lightbox at night, contrasting with the heavy concrete walls, while shifting to a more reserved finish during the daytime with the matte outlook, overlapping the printed patterns. In the first scenario, the building looks more as a glazed veil, as a light envelope, spiking curiosity with the dynamic facade imagery. It is full of self-reflecting light, imprints mirroring each other on the walls and canopy, with the stripes of interior lights extending all the way to the outside (Fig. 23). This playfulness and contrast of materials, is inviting, luring on in behind the "curtains".

Abb. 23. Exterior and interior permeate each other. Lighting condition from within creates a feeling of openness.



In a second scenario, however, the perception is purely dictated by the exterior, as there is no suggestion on what is happening inside. The daylight is only highlighting the transparency of the roof structure with the repetition of leafy pattern. It also leaves a blueish gloomy stripe of light, reflected from the cloudy sky on the polycarbonate facade. Without the artificial lighting from within, it gives off a more shut-down nature, representing a box as a whole. Polycarbonate panels in this setting, just like in example of changing weather conditions, becomes closer to

Abb. 24. Daylight condition, leaving a matt reflection on imprinted facade. More closed-off appearance.





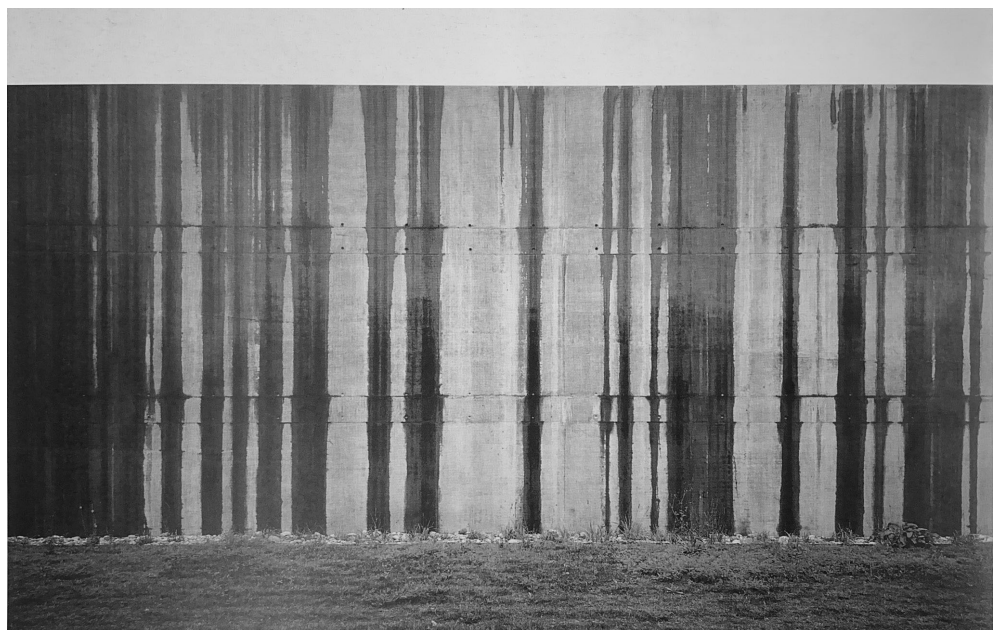
Abb. 25. Clear structure of storage space and installed containers is repeating the framework of assembled facade patterns.

the concrete of side walls. The metaphysical qualities of both materials shift towards enclosure, boldness, which is way less intriguing or inviting for the observer. One is faced with the uniform architectural object, which in a day setting stands not so much a shell but a grounded heavy mass (Fig. 24).

With the ambivalence of appearance, when put into perspective of time and weather conditions, Ricola Mulhouse is always perceived as an integral object in its' wholeness. It plays on contrast between exposure and being shut down, hinting on openness to the observer. However, it never reveals its' core completely through the translucent polycarbonate or a reinforced concrete. The contents of the building with the structurally calculated bearing elements are also aligned in a similar manner as the imprints of the facade (Fig. 25). We can see the slender columns, supporting the facade walls, somehow corresponding to the breaks between the lighting lamps. Interior space, for which the "membrane shell" is provided, is free-flowing and open, yet is rationally organized. Minimal representation is also celebrated in the construction framework, where slender and sleek elements are assembled in a precise and clear way.

In this case study, we are mainly faced with two examples of materiality, revealed in metaphysical sense through different settings. Concrete and polycarbonate, despite having completely different, if not the opposite physical prerequisites, are coming together in an integrity of form. In the beginning, Ricola Mulhouse was to be fully imprinted, like a tattooed body, including the side walls. Perhaps, it would be a direct approach of binding the whole volume together in the pattern envelope. And yet, Herzog & de Meuron have left the surface bare in its' smoothness, allowing the weather conditions to add on a new layer of meaning (Fig. 26). By sophisticated use of materials, they presented another method to bring building to this state of wholeness through indirect, more metaphysical essence. Perception is ambivalent and ever-changing, yet in minimal appearance of Ricola we can always observe object's integrity.

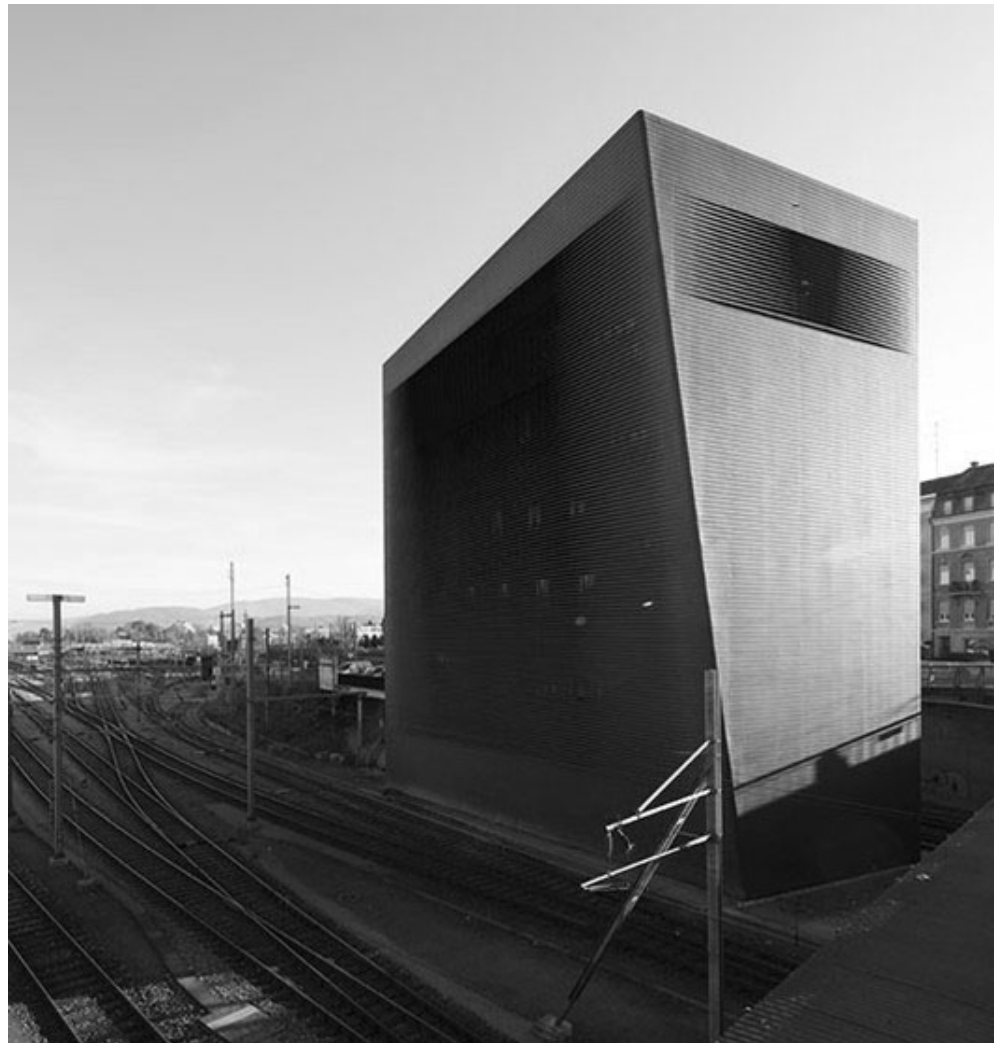
Abb.26. Rain painting on the concrete wall of Ricola storage. Reference to the Studio Rémy Zaugg, Mulhouse. 1995 - 1996.



4.2 ELEMENTS

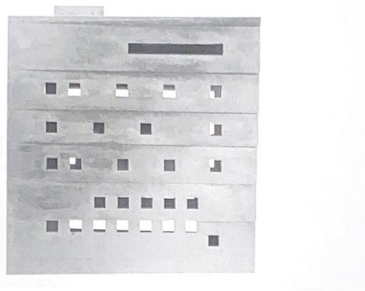
Since the early stage of their journey, Herzog & de Meuron were fascinated by the artistic attitudes of treating the existing buildings as "sculptural mass" that can be approached in a subtractive procedure. They tried to achieve this via knowledge of material and element assembling into a uniform object. Aside from structural bearing elements and important construction, metaphysical aspects were considered in the design process. Another collaborator of the two architects, an artist Matta-Clark, reflects on one house project¹², which was opened up, revealing all the underlying layers, overlaps, various parts, which were accounted for shaping the building. It was fascinating to uncover, how such a uniform-looking surface came around into consisting of so many elements, synchronized with each other to merge into total representation.

Abb.27. Central Signal Box in between the railway tracks and a pedestrian.

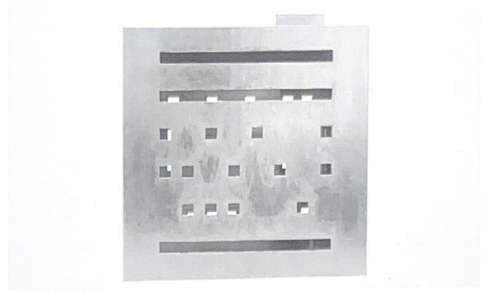


For discovering the notion of elements, we would focus on another iconic project by Herzog & de Meuron - Central Signal Box in Basel. The volume is represented in a multi-storey concrete core, wrapped with the twisted copper shell. It is constructed from the thin stripe elements, shaped in a seamless manner with slightest openings. Materiality of copper facade is referring to the electronics of the rail control housed in the building. Each of the stripes is revealing underlying structure of a concrete core, exposing the windows on the inside, depending on the observation viewpoint.

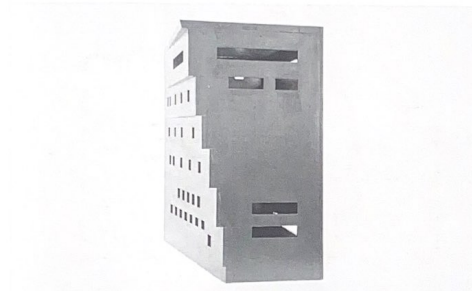
¹² Herzog & de Meuron 1992-1996. p. 14.



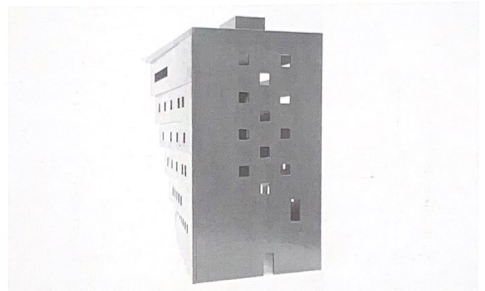
Die Gleisseite des Stellwerks mit kleineren Fenstern im Modell.
The side of the signal box facing the tracks with smaller windows.



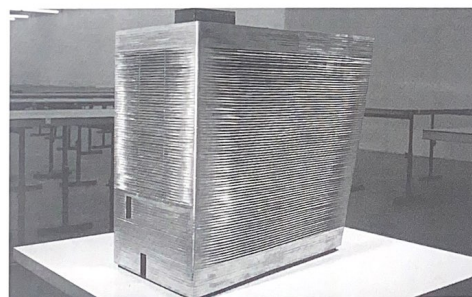
Die Bandfenster zur Strasse im Modell.
The strip windows towards the street in the model.



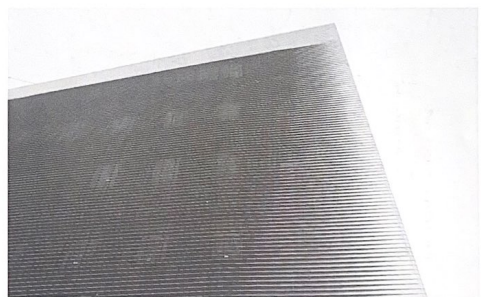
Der abgetrepte Betonkörper zur Brücke hin im Modell.
The stepped concrete volume facing the bridge in the model.



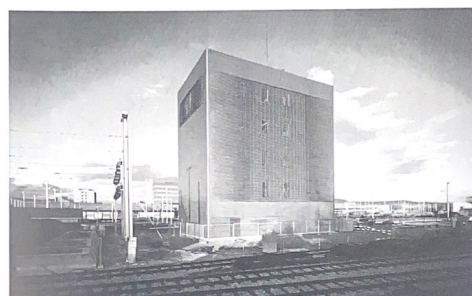
Der abgetrepte Betonkörper als abnehmendes Volumen.
The stepped concrete mass as a waning volume.



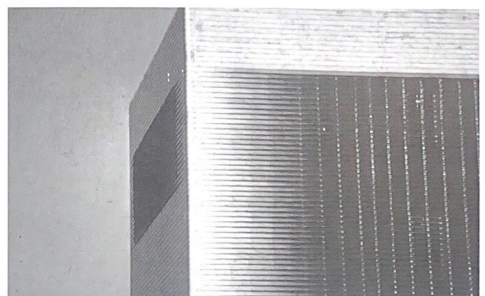
Die Kupferummantelung im Modell.
The copper shell in the model.



Zwischen den Kupferbändern scheinen die erleuchteten Fenster durch.
The illuminated windows shine through between the copper strips.



Das zuerst gebaute Stellwerk Auf dem Wolf mit seiner monolithischen Form.
The signal box Auf dem Wolf with its monolithic form was built first.



Die über den Fenstern aufgedrehten Kupferbänder des ersten Stellwerks.
The twisted copper strips above the windows of the first signal box.

Abb.28. Volume in physical model.
Exposed concrete core and covering metal wrap.

The whole shape resembles a turning rectangular box, rotating in between the train tracks and the highway on the backside (Fig. 27). Herzog & de Meuron have intended to relate both to the nature of Basel as a city and the railway setting. Twisted form of Central Signal Box is once again reminding us of the Specific Objects by Donald Judd, discovered previously. In minimal representation, the architectural object represents its' own essence as a copper box, since we are only faced with the outer shell initially. There is even less elements, used in forming the exterior, than in the example of Ricola Mulhouse. It all comes down to a stripe of copper, covering and uncovering, what is intended to be seen at the specific angle only. Not only does it look as a closed-off object overall, it also gives an impression of misinterpreted dimensions, as there is no relation to the context module at all. The building may be perceived in another size, than its' real one, by confronting the local scale, it becomes a catalyst of attention (Fig. 28).

Sleek and flexible copper stripes formulate the matte, semi-exposing facade as a textile wrapping around the fashion mannequin. They gently repeat the shape of twisting torso, which extrudes from a smaller plot in the ground floor, resembling a trapezoid in section. The volume is presenting a more humanistic look on the pedestrian bridge side, where the copper elements are rotated to orientate the view towards the street. Slightest rotation of each stripe above the windows of permanent offices connects the workers with the outside context and vice versa, while stretching along the wall (Fig. 29).

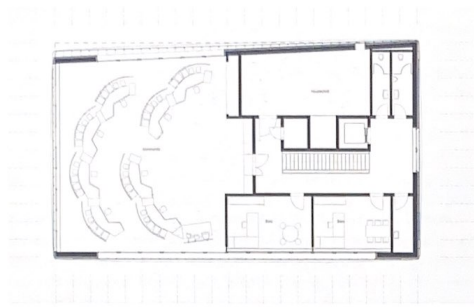
Abb.29. Facade with the strips of windows, exposing the offices to the pedestrian.



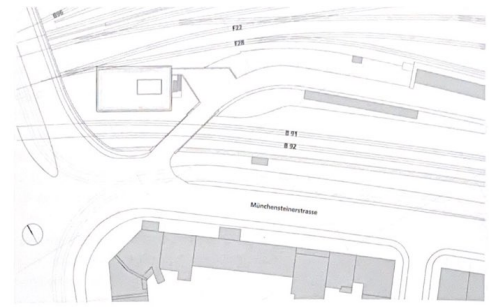
Concrete core is not the main actor in this project, as it is standing in a background, representing a framework, rather than a skin, unlike in the previous case study. Window openings vary, depending on whether they face the pedestrian or the train tracks. They are designed as stripes in the first case and as single square modules in the latter one (Fig. 30). If we unfold the copper shell, like a wire spool, we will be presented with the bold, rather closed-off concrete form.

Abb.30. Repetition of windows arranged in different volumes and dimensions.

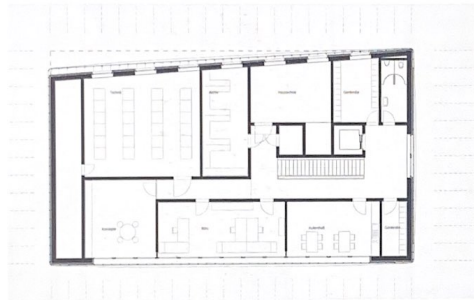




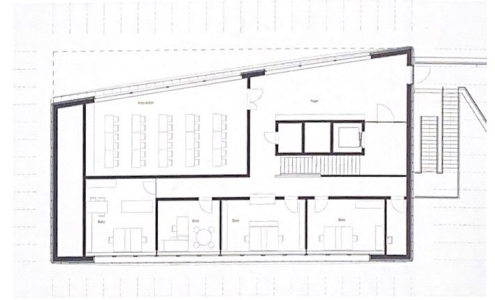
Grundriss 4. Obergeschoss.
Ground plan 5th floor.



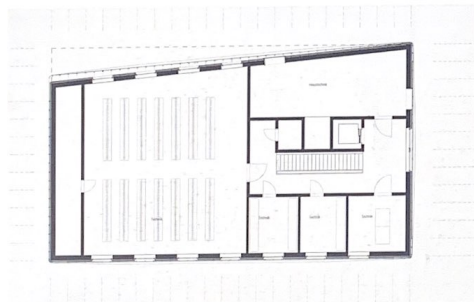
Situationsplan.
Site plan.



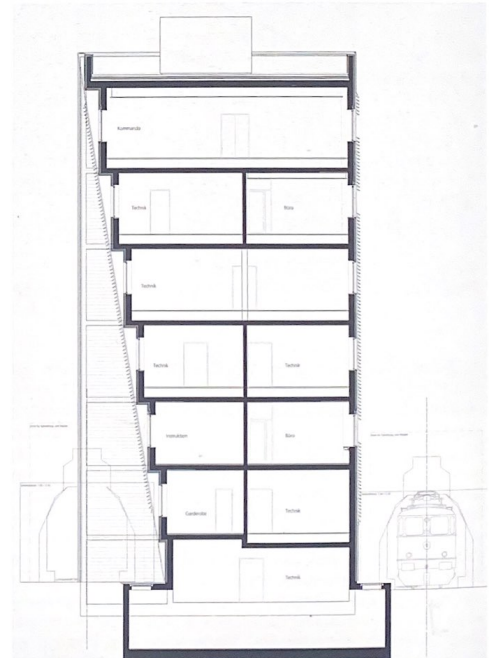
Grundriss 3. Obergeschoss.
Ground plan of 4th floor.



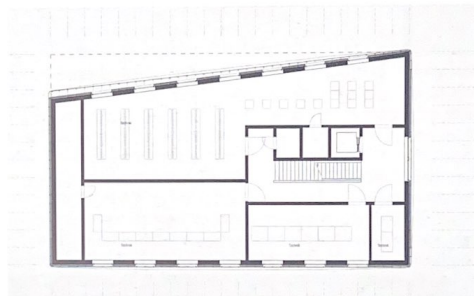
Grundriss Zugangsgeschoss.
Ground plan of access floor.



Grundriss 2. Obergeschoss.
Ground plan of 3rd floor.



Querschnitt: vom Trapez zum Rechteck.
Cross section: from trapezoid to rectangle.



Grundriss 1. Obergeschoss.
Ground plan of 2nd floor.

Abb.31. Drawings of floor plans and section. Transition from the trapezium to the rectangle.

Each layer of it is rotated, although the walls are straight and rigid on the corner parts. The veil of copper, binding it together is actually creating a feeling of wholeness of this structure, connecting the stepping out levels with a single line. Slightest exposure of insides via twisted stripes leaves a space for imagination, creates a certain intrigue, where the inner spaces may appear more lucrative than they really are in their concrete materiality. The program of the core stretches through the six floors, yet there are no hints on it from the exterior. In this example, we are also faced with ambivalence of perception, so commonly applied by Herzog & de Meuron in their projects of that period. In a daytime, Central Signal Box stands out as a sculptural mass, as a uniform volume with no visible openings. From the first glance, it might be even hard to tell, if anything is happening on the inside, as the structure looks like a non-inhabited object. Once the lights are up in the evenings, however, the Box obtains a new metaphysical quality and play between the copper skin and the revealed underlayer with lit up

windows. The striped overlap, varying on different sides and depending on the angle of perception, creates an animative effect. Again, the facades may be treated as a screen with animation, a video technique, which inspired the architects by the notion of movement:

The eye, slower than the camera because it has both the ability and the burden of memory, stores the image after it has actually disappeared from view.¹³

Every element in case of Central Signal Box is an integral part of a building, where a concrete core without the copper veil, and vice versa, would not possess the same qualities of a "whole object".

Abb. 32. Change of perception in the darkness. Relation to the surroundings.



13 Herzog & de Meuron interview for *Natural History*. p. 299.



Abb. 33. Copper wrap reminiscing the textile veil. Smoothing edge, unifying the rigid concrete floor steps.

4.3 ORNAMENTS

Photography as a construction material motif goes as a silver lining through the works of Herzog & de Meuron. It is especially the case in their project of Eberswalde University library, where they took their previous experiments with the imprints to the new level. In this example, imagery does not only deliver a message in visual form but also plays a role of a building material. Using the "informed matter" as photographed facades, the architects are interfering with the observer's perception. The level of information goes beyond tectonics, adding another layer of meaning.

In the 20th century, architects faced two ways of designing the facade surface: texture and abstract patterns. As described in *Learning from Las Vegas*¹⁴, the result was that images on the buildings were used for specific agenda. Thus, in the cities facades were overlapped with layers of excessive information, which lacked coherence. Usually the images were placed for commercial profits like on billboards, and not for metaphorical expression.

Abb. 34. Eberswalde University library in the city context. First impression from the outside.



Herzog & de Meuron, however, explored the full potential of every type of material throughout their journey. Images for them were one more opportunity for building the skin of an architectural object. Their close collaboration with artists, including experience with *Specific Objects*, discovered earlier, left a trace of materiality ambivalence in Eberswalde University library project. In this case, the imprints are made on the concrete and glass surfaces, wrapping the building into an envelope of a tattooed body (Fig. 34).

The selection of pictures by Thomas Ruff¹⁵ composes a vertical sequence of twelve different images repeated horizontally, as a belt around the box-shaped building sixty-six times framed in concrete panels of 1500 x 715 mm, or silk-screened glass of 1500 x 1190 mm (Fig. 36). Imprinting technique was familiar to the studio from a series of projects, such as Sportszentrum Pfaffenhof, Ricola Mulhouse and other. The library in Eberswalde is special in a way that it has the whole storyline unfolding right on the exterior. The volume represents a "inside-out museum", hinting on the contents of it, in a manner of the Ricola storage building (Fig. 35). The horizontal rows have a repetition of the same image imprint,

14 Venturi, Scott Brown, and Izenour. 1977

15 German photographer, collaborated with Herzog & de Meuron.

Abb. 35. Rows of imprinted images on glass and concrete with the breaks of windows.



Abb. 36. Production process of imprinting on concrete panels. Preparation of elements.



stretching all around the uniform body. The concrete panels are interrupted by the single stripes of blue-tinted glass, breaking in-between the levels (Fig. 37).

The architects point out in text about the project:

The imprint on the entire façade unifies the surface; the differences between concrete and glass seem to be annulled (Mack 2009, 69).

This way, physical prerequisites of materials are secondary to the choice of imagery. Both concrete and glass are brought together into a uniform "skin" of this simple box volume, representing a building material themselves. Collaboration with Thomas Ruff resulted into originally black and white photographs, printed on the panels of the same module (Fig. 38). The artist selected 2500 from the newspapers initially, based on his personal interest and vision. His aim was to represent the library as "people's building", based on the storyline he arranged in a sequence of imagery. Volume's function is to store knowledge and provide open access to it, which we already anticipate in its' form as the stacked book shelves, interrupted by the strips of light glass.

The architectural object is wrapped in the pictorial skin as a uniform volume, with a few windows of the same dimensions as the panels. Looking whole and bold in a daytime with the photographs blurring the edge between the interconnecting materials, Eberswalde University library transforms at night. The images start glowing from within, like a repetition of the LED screens, emphasizing the contrast of transparent glass and bold concrete. The narrative, so clearly seen in purposefully arranged images, is broken into 3 rows that are visible in the dark (Fig. 39). Yet the observation points are limited due to the vertically-oriented arrangement of images, which are better perceived from some distance.

Abb. 37. Visual wrap of the entrances, performed on glass modules. Translucency is emphasized by inner light.



Imagery extends in the rows of 66 pieces around the facade, including the entrance point. It is wrapped in glass, translucent as a light box shining through the imprints in the dark, inviting a visitor into the story.

Abb. 38. Printing of various photographs. A process of trying new technique. Construction joints.



Erste Versuche mit Betondruck bei Herzog & de Meuron.
First attempts at concrete printing by Herzog & de Meuron.



Siebdruckfolie und Beton werden in Formen gefüllt.
Silk screen foil and concrete are poured into moulds.



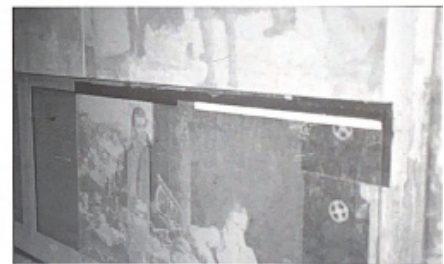
Die nicht abgedeckten Flächen des Betons werden herausgespritzt.
The unset surfaces of the concrete are sprayed out.



Bedruckte Platten und Druckvorlagen.
Imprinted panels and print patterns.



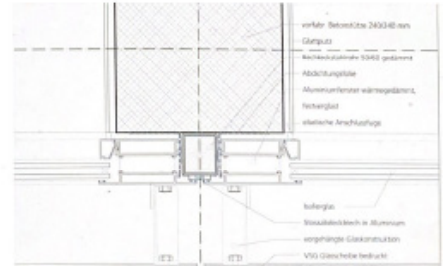
Bedruckte Glas- und Betonplatten in der Fabrik.
Imprinted glass and concrete panels in the factory.



Bemusterung einer bedruckten Glasplatte.
Pattern of an imprinted glass panel.



Der ornamentale Rhythmus der Fassade.
The ornamental rhythm of the façade.



Querschnitt Fassadendetail.
Cross section of façade detail.

Abb. 39. Skylights illuminated from within at night. Repetition of single windows in the rows of concrete.



Sequence of images is supposed to be read from the top to the bottom, Thomas Ruff also described them as follows:

- 00: Subjects (Real Scenes)
- 01: Newspaper Photographer Shot
- 02: Newspaper Archive Compilation
- 03: Newspaper Editor's Choice
- 04: Newspaper Page Display
- 05: Thomas Ruff's Selection for His Collection
- 06: Thomas Ruff's And Herzog De Meuron's Selection for the Façade
- 07: Herzog And De Meuron's Drawings for the Facade (Scale - Position)
- 08: Printed Concrete Panels Printing
- 09: Eberswalde Library Facade Construction
- 10: Thomas Ruff's Photographs of the Building.

Carlos Chacón Pérez interprets the meaning of each image in his research¹⁶ and breaks them down into different metaphors (Fig. 40). The images are picked so that they are understood by an acknowledged observer, such as a citizen of Eberswalde. They are reminding of motifs, events, symbols that are relevant locally and can be decoded better by this public. However, the images do not imply the specific goal or message, as the billboards do - photography as a construction material works on associations, it is meant to evoke feelings in an observer. Each image, nevertheless, is specific in what it represents, while being open to personal understanding. This ambivalence is revealed not only in the meaning of the imprinted visuals but also in perceiving a volume as a whole object, despite its' construction from two opposing physical matters, such as concrete and glass.

The storyline, or the separate pieces of history are relevant for German people in general. The topics vary from science, education to vitality (fertility as interpreted by Carlos Chacón Pérez), political and social events. Every one of them is sign of different times, having marked their spot in the relevant fields. And all have been carefully collected by Thomas Ruff from the newspapers (Fig. 41,42). Coming together, these photographs represent a building as a whole, helping to unify two materials) in a uniform self. In this example, the object is perceived beyond its' tectonics, having an envelope as a catalogue of thought-provoking visuals. By removing some of the imprints, or getting rid of them as a top layer, the library would not translate its' purpose of carrying and storing knowledge into the context. At the same time, the box volume would be more of a generic structure with no particular story to tell. Such contrasting materials in their weight, transparency, physical properties, would not come as whole without the binding imagery "material", which adds to the form's metaphysical interpretation.

16 *Photography as a Construction Material beyond its Ornamental Potential* by Carlos Chacón Pérez. PhD Candidate at Politécnica de Madrid; Associate Professor at Feng Chia University in Taiwan.

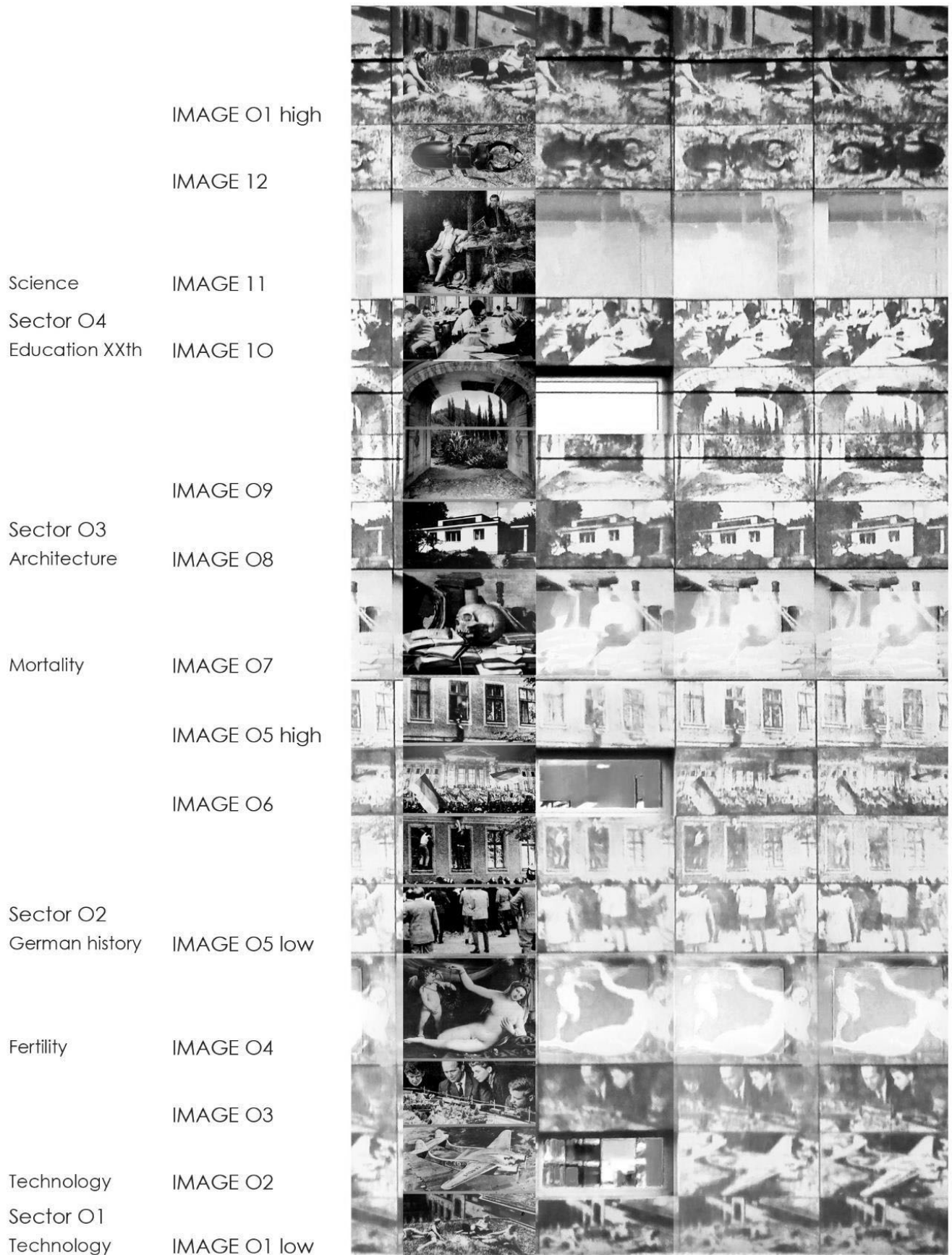


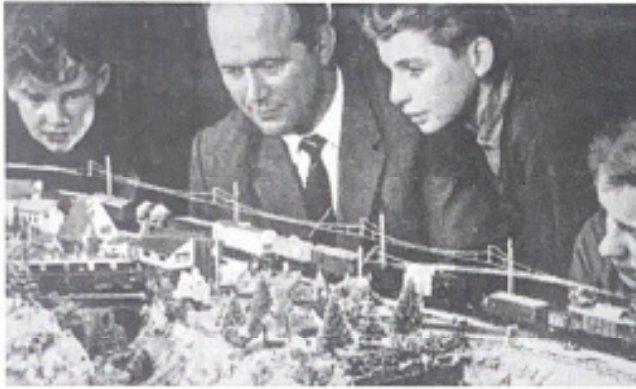
Abb. 40. Study of photographic sequence, arranged by Thomas Riff. Metaphorical decoding by Carlos Chacón Pérez.



-Venus und Cupido- von Lorenzo Lotto.
Venus and Cupido by Lorenzo Lotto.



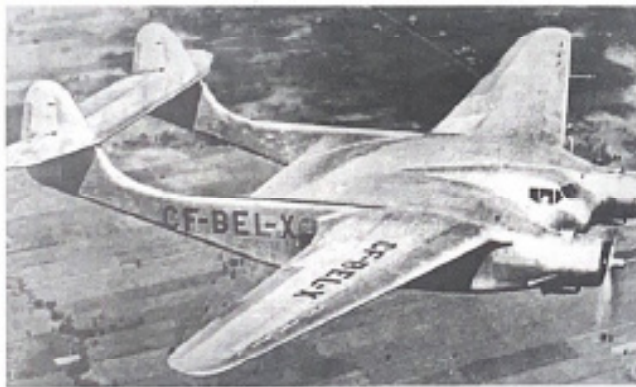
17. Juni 1961 in Berlin: eine alte Frau bei der Flucht in den Westen.
June 17, 1961 in Berlin: an old woman during her flight to the West.



Technologieskepsis: Familienidylle mit Spielzeugisenbahn.
Skepticism towards technology: Family idyl with a toy train.



Wiedervereinigungsfeier am Brandenburger Tor, Berlin, 1989.
Reunification celebration at Brandenburg Gate, Berlin 1989.



Prototyp Rumpflügler, der nie in Serie ging.
Prototype fuselage wing plane; it never went into production.



Männer ziehen die flüchtende Frau vor der Volkspolizei nach unten.
Men pull the fleeing woman down before the GDR police get to her.



Junge Frauen beim Musikhören auf einem Dach im Berlin der 20er Jahre.
Young women listening to music on a planted roof in Berlin in the 1920s.



Zuschauer der berühmten Flucht in der Bernauerstrasse, Westberlin.
Lookers-on at the famous flight in Bernauerstrasse, West Berlin.

Abb. 41. Photographic motifs of various historic events, art pieces.



Studenten des Atlantic College in Wales.
Students of the Atlantic College in Wales.



Olympische Spiele 1936 in Berlin; das Motiv schied aus.
Olympic Games 1936 in Berlin; the subject was dropped.



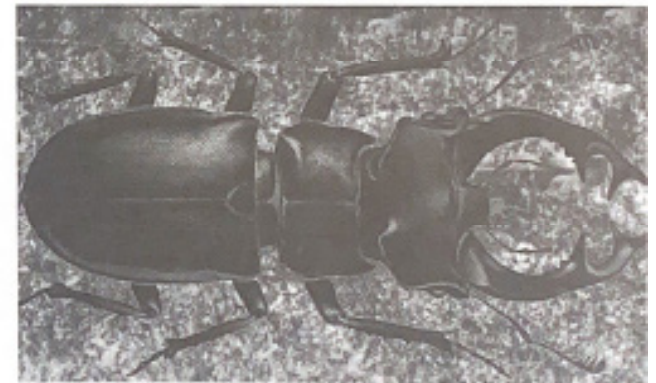
Torbogen von Colle Ameno: Architektur als Landschaftsrahmen.
Archway of the palace of Colle Ameno: architecture framing landscape.



Kitschmotiv röhrender Hirsch; das Motiv schied aus.
Kitsch motif roaring stag; the subject was dropped.



Eine Bauhaus-Ikone: das «Haus am Horn 61» in Weimar.
A Bauhaus icon: the "Haus am Horn 61" in Weimar.



Hirschkäfer, die paarig einander zugeordnet sind.
Stag beetles, assigned in pairs.



Memento Mori und Melancholie-Topos: Vanitas-Stilleben von Pieter Potter.
Memento Mori and melancholic topos: Vanitas still life by Pieter Potter.



Der Naturforscher Alexander von Humboldt, gemalt von Eduard Ender.
The natural scientist Alexander von Humboldt painted by Eduard Ender.

Abb. 42. Abstract references and coded messages.

4.3.1. Lighting and Transparency

The ambivalence, which we have widely discovered in this research, is often present in the works of Herzog & de Meuron, be it in the properties of material or metaphysical perception. It is especially noticeable with the notions of lighting and transparency, which are revealed in different proportions, playing with the observer's perception. Not always is it about using a glass or polycarbonate for the sole purpose of providing enough light or bringing in concrete as a structure-bearing element.

The studio experimented a lot with bringing in a double message, where glass was seen as a light veil with the imprints on it, and concrete was more of a screen for nature's art performance, while metal took on a role of a gentle textile wrap, smoothening the edges of rigid concrete core. Depending on the weather, time of the day, angle of observation, the architectural objects were presented in constantly changing manner. However they always were perceived as a uniform, whole structure, as the elements and materials were coming together. In metaphysical sense, light or the lack there of, was an advantage to emphasizing the buildings' integrity. And a varying level of transparency during the day was also an asset to revealing their ambivalence.

Abb.43. Glimmering light, reflected on semi-matt polycarbonate. Translucency of the roof panels with the same imprints.



Abb.44. Ricola Mulhouse in the natural context. Matching color palette and reflection of inside-outside.



5 RELATION TO THE CONTEXT

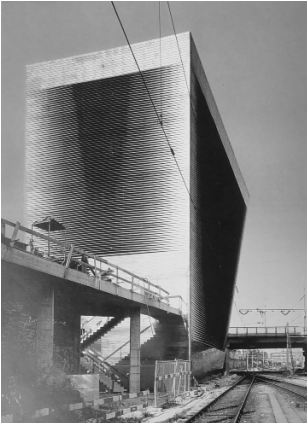


Abb. 45. Distorted copper box in relation to the railway materiality.

While each project of Herzog & de Meuron was treated individually in its' appearance and materiality, rarely can we see the focus on integration into the context. As described by Donald Judd, his Specific Objects were supposed to refer to nothing else but themselves in their materiality. Commonly, by integrating into the surroundings, especially historic ones, we start analyzing the local style, modular system of openings, elements, scale overall. However, in the discovered examples we have found a much bigger focus on making a building as one uniform structure. Which resulted quite often in the lack of visible hints on its' size, corresponding to the context, nor was it easy to judge on tectonics correlation, since the new structures often represented a slightly modified box.

Ricola Mulhouse project is placed outside of the dense urban context and is surrounded by nature. Thus, its' integration into this setting may be a metaphysical matter, rather than the question of proportions. When the concrete obtains a mirror-like surface under the rain, it comes closer to the shimmering translucent panels on the other sides. While it starts reflecting the trees nearby, the blueish-green undertones of polycarbonate have glooming traces of the forest, slightly reflected on the matt surface (Fig. 43, 44). In this case, nature and the whole volume become a part of unified setting, reflecting each other in a special atmosphere.

Central Signal Box in Basel is clearly a manifestation of the pure form in itself. It does not correspond to the proportions of the surrounding buildings, and may look deceiving in scale. The dimensions are easier observed in the darkness, when the windows give out the levels count as well. The copper veil, referring to the core function of the Signal Box is prioritized, better responding to the similar materiality and constallation of the train tracks than the urban environment (Fig. 45).

Finally, Eberswalde University library is the only example, when the building is placed into the urban context, being in between the road and the campus. Although the structure is a simple box, wrapped into the imprinted veil, it "speaks" to its' audience. The sequence of images, constructed into the repetition of rows that are related to the events and motifs, is more important than the form it overlaps. Therefore, we can assume that the volume is not so much integrated into the physical context as it is in the mental one.

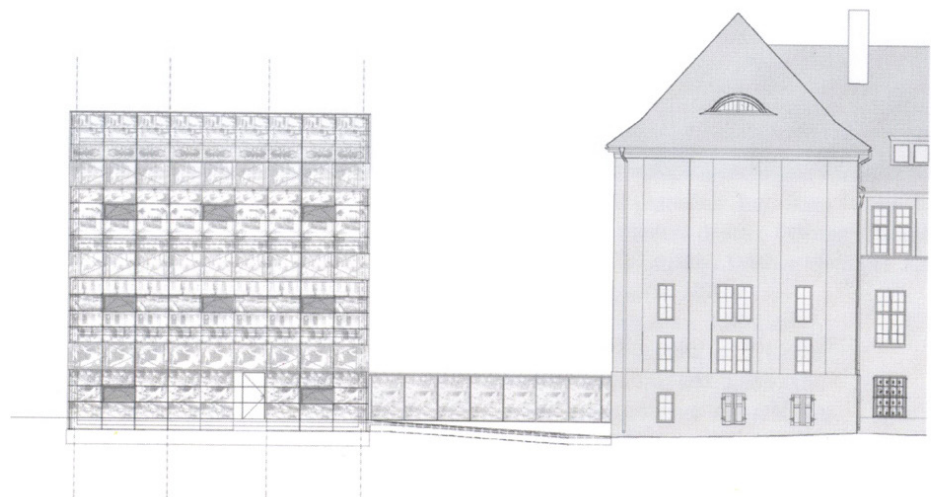


Abb. 46. Contrast of historic volume and the imprinted concrete box.

6 CONCLUSION

Projects by Herzog & de Meuron are just one example of Swiss architecture. What makes them unique to this day is constant search for the new ways of approaching specific design. In this research we observed their way of treating material, bringing the new potential and playing on ambivalence of its' physical perception. Metaphysics played a big role in all three case studies, when constructing an architectural object as a whole form. Implementation of some techniques from the collaborations with various artists has definitely impacted the focus on the integrity of the building. Be it a storage, or a signal box, or a public library, the architects managed to construct the volumes as uniform as possible. They played on changing of perception by the observer, where he was sometimes faced with the solid shut-down "box" or lured in by the shimmering light from within.

Each object is as integral, as the work of art in a gallery. It does not have to refer to some ideology or theory, if it is precisely designed in materiality that manifests the volume itself. This is what made Swiss architecture stand slightly aside from the rest of Europe in the 80s – 90s. In a country with a high-quality execution, local studios found their ways to deliver idea in the most traditional for the architecture field way, while constantly looking for reinventing the material language of their works.

In the analyzed projects, materials obtained duality of meaning and representation. Polished concrete could deliver a quality of a mirror, polycarbonate was a seemingly breathable translucent veil, while normally rough metal gave off a sensation of silky textile wrap. Herzog & de Meuron manipulated perception of their works via different ways, where many aspects are ambiguous and can be read depending on the setting or an observer. However, one thing always remained - all of the observed architectural objects were whole in their minimal representation. Similarly to the method of Valerio Olgiati, by removing one element, we demolish the whole structure. And this element does not necessarily have to be physical structure, it can be as symbolic motif, such as ornament or temporary visual trace on concrete.

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Abb. 2. Stacked facade of Ricola Warehouse in Laufen by Herzog & de Meuron. 1986 – 1987. From: *Naturgeschichte* by P. Ursprung. Pg. 195.

Abb. 3. Schoolhouse in Paspels by Valerio Olgiati. Bold concrete volume contrasting with the natural context. From: <https://baukobox.de/projekte/194-valerio-olgiati-schulhaus-in-paspels>. (28.12.22).

Abb. 4. Kapelle Sogn Benedetg, Sumvitg by Peter Zumthor. Reconstruction of 1989. Graubünden. From: <https://divisare.com/projects/273887-peter-zumthor-helene-binet-caplutta-sogn-benedetg>. (25.12.22).

Abb. 5. Interior of St Benedict chapel with the clerestory windows by Peter Zumthor. From: <https://divisare.com/projects/399322-peter-zumthor-august-fischer-caplutta-sogn-benedetg>. (26.12.22).

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Abb. 11. "Structure as an image of local sawmills or the layered limestone in the old quarry that is home to warehouse". From: <https://arquitectura-viva.com/works/almacen-para-ricola-laufen-3>. (28.12.22).

Abb. 12. Donald Judd, "Untitled, 1989 (Bernstein 89 24)", 1989, copper and red Plexiglas, ten elements, each: 9 x 40 x 31 in. From: <https://stateofheart.crystalbridges.org/blog/donald-judds-specific-objects-and-the-art-of-installation/>. (01.01.23).

Abb. 13. Donald Judd, "Untitled", 1991. Mill aluminum. Five units, each: 59 x 59 x 59 inches. Friedrich Christian Flick Collection. From: <https://juddfoundation.org/art/untitled-54/>. (01.01.23).

Abb. 14. Domus Winery. View from afar. Perceived uniformity. Napa, California. From: <https://arquitecturaviva.com/articles/vendimia-de-pie->

[dra#lg=1&slide=1](#). (01.01.23).

Abb. 15. See-through facade from stacked stones in metal framework. From: <https://www.dezeen.com/2019/11/19/new-photographs-herzog-de-meuron-dominus-winery/>. (01.01.23).

Abb. 16. Illusion of structural fragility, enhanced by the daylight. From: <https://therepublicofless.wordpress.com/2010/07/20/herzog-demeuron/>. (01.01.23).

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I hereby certify that the present work titled:

Total Form'89

Exploration of object integrity in works of Herzog
& de Meuron

was written by me independently, that no sources
and aids other than those indicated were used and
that the parts of the work that were taken from
other works - including electronic media - in terms
of wording or meaning are marked as borrowed,
and citing of the sources have been made.

Shegay Alina

Luzern, 10.01.2023

