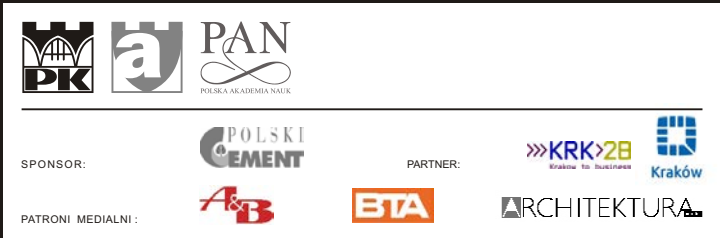


Definiowanie przestrzeni architektonicznej

Temat do dyskusji:
Transmutacje betonu

1. Marzenie o *transmutacji*, o przemianie jednej rzeczy (pospolitej) w inną (doskonałą) zostało zapomniane. Zapomniane podobnie jak poszukiwanie niezbędnego do tego celu kamienia filozoficznego. Przecież dziś nawet brylanty można wytwarzać syntetycznie, bez udziału tajemnic Hermesa Trismegistosa zapisanych na szmaragdowej tablicy: *Verba secretorum Hermetis Trismegisti*. A jednak zagadnienie zamiany jakiegoś materiału natury pospolitego, w rzecz niezwykłą wciąż budzi zastanowienie. Tak jest z betonem.
2. Beton, materiał budowlany, dziś rzecz pospolita, w architekturze ma entuzjastów i sceptyków. Przez jednych uznawany za współczesny kamień, predestynowany do tworzenia rzeczy pięknych, wzniosłych i wspaniałych. Przez innych uważany za materiał „brzydki”, przydatny do wznoszenia elementów technicznych budowli, niegodny by ujawnić swój wygląd. W istocie zarówno ten „kamień”, jak i ten „beton” może służyć do budowy drogi, i monumentu. Jednak by stworzyć dzieło sztuki architektonicznej, potrzeba poddać ów materiał *transmutacji*. I nie zawsze wiadomo, jak taka doskonała rzecz (architektoniczna) zostanie uzyskana. Wiadomo, że by otrzymać, dzieło sztuki należy nająć mistrza. Lecz gdzie jest mistrz-alchemik, kto nim jest?
3. Powszechnie uważa się, że wielkim magiem alchemii betonu jest Le Corbusier; tworzył kolejne dzieła o nieprzewidywalnej brutalistycznej oryginalności; wersje eleganckie takiej architektury budował Carlo Scarpa. Ideologie doskonałości formy i konstrukcji łączył Robert Maillart, nie oglądając się na zasadę Kublaj Chana zapamiętaną przez Marco Polo. Mistrzem rzeczy o ścianach idealnych czystutkich, gładziutkich, aksamitnych jest Tadao Ando. Tuż obok w świecie *transmutacji* betonu zajmuje miejsce architektura Aurelia Galfettiego wymyślna, precyzyjna, bez skazy, jak metaforyczne, poetyckie, prefabrykaty Ricardo Bofilla. Ideologie rekordów rozpiętości (i wysokości) rozpoczął dramatycznymi formami Max Berg, bliskimi betonów monumentalnych Zahy Hadid, i być może rzeźb Fritza Wotruba.... Jest wiele rodzajów efektów transmutacji: dzieła magów nazywają się arcydziełami sztuki architektonicznej. Oprócz nich jest po prostu architektura betonowa.
4. Nie ma jednej teorii transmutacji betonu, tak jak nie ma jednej teorii architektury. Twórcy mówią różnymi językami. Wszyscy wierzą jedynie w zasady ogłoszone kiedyś przez Witruwiusza. W przeszłości alchemicy zapisywali swoje magiczne zasady; polski alchemik *Sendivogius Polonus* w XVII wieku sformułował dwanaście zasad *transmutacji*. Wielcy magowie XX wieku, twórcy architektury betonowej, nic o nich nie wiedzieli. Takżeo niezbędnym przecież kamieniu filozoficznym.
5. Tu wypada przywołać istotne zagadnienie dotyczące technologii betonu i techniki budowlanej, nie bez powiązań z ekonomiką (i pamiętając o Witruwiuszu). Ten świat wymaga reguł i posługuje się regułami. To czysty świat nauki, techniki, odkryć i osiągnięć wynikających z dążenia do postępu. Dla widza, dla odbiorcy sztuki architektonicznej, także zazwyczaj dla krytyków sztuki, owe osiągnięcia pozostają nie tyle tajemnicą, co pozostają niewidzialne. Są domeną wiedzy tajemnej innej rodziny magów: inżynierów. Bez nich *transmutacje* betonu byłyby niemożliwe.

Dariusz Kozłowski, Maria Misiągiewicz



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1

2017 DEFINIOWANIE PRZESTRZENI ARCHITEKTONICZNEJ
TRANS MUTACJE BETONU
DEFINING THE ARCHITECTURAL SPACE
TRANSMUTATIONS OF CONCRETE

2017

Defining the architectural space

The subject to be discussed:
Transmutations of concrete

1. The dream of *transmutation*, the transformation of one (common) thing to another (superior) one has been forgotten. Forgotten much like the quest for the philosopher's stone essential to this purpose. After all, even diamonds can be produced synthetically today, without the mysteries of Hermes Trismegistus written on the emerald tablet: *Verba secretorum Hermetis Trismegisti*. And yet, the concept of turning one inherently common material into an unusual thing still arouses reflection. This is also the case with concrete.
2. Concrete, a building material, a common thing today, has both its enthusiasts and sceptics in architecture. The former consider it to be a modern stone predestined to create beautiful, sublime and wonderful things. The latter regard it as an "ugly" material, suitable for raising technical elements of buildings, unworthy of revealing its appearance. In fact, both the "stone" and the "concrete" can be used to build a road, and a monument. However, to create a work of architectural art, one needs to subject this material to *transmutation*. And it is not always known how such a superior (architectural) thing will be obtained. It is known that to obtain a work of art, one should hire a master. But where is the master alchemist, who is it?
3. It is widely believed that the great magus of the concrete alchemy is Le Corbusier; he created successive works of unpredictable brutalist originality; Carlo Scarpa built elegant versions of such architecture. Robert Maillart combined ideologies of the perfection of form structure, without looking back at the principle of Kubla Khan remembered by Marco Polo. The master of things with ideal walls nice and clean, smooth, velvety is Tadao Ando. Aurelio Galfetti's architecture takes its place right next to it in the world of concrete *transmutations* it is sophisticated, precise, flawless, like Ricardo Bofill's metaphorical, poetic prefabricated units. Max Berg began ideologies of span (and height) records with his dramatic forms close to Zaha Hadid's monumental concrete works and perhaps the sculptures of Fritz Wotruba... There are many types of transmutation effects: the works of magi are called masterpieces of architectural art. Apart from them there is just concrete architecture.
4. There is no single theory of concrete transmutation, just like there is no single theory of architecture. The creators speak different languages. They all believe only in the principles once announced by Vitruvius. In the past, alchemists recorded their magic principles; in the seventeenth century the Polish alchemist *Sendivogius Polonus* formed twelve principles of *transmutation*. The great magi of the twentieth century, the creators of concrete architecture, knew nothing about them. Neither did they know about the essential philosopher's stone.
5. It is fitting to recall here a pertinent issue concerning concrete and building technology, not without links with economics (and remembering about Vitruvius). This world requires rules and uses rules. It is the pure world of science, technology, discoveries and achievements resulting from the pursuit of progress. These achievements are not so much a secret as they remain invisible for the viewer, the recipient of architecture, and usually also for art critics. They constitute the domain of the occult of another magi family: engineers. Without them, *transmutations* of concrete would be impossible.

Dariusz Kozłowski, Maria Misiągiewicz



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Wydawnictwo PK, ul. Skarżyńskiego 1, 31-866 Kraków; tel.: 12 628 37 25, fax: 12 628 37 60
e-mail: wydawnictwo@pk.edu.pl www.wydawnictwo.pk.edu.pl
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DEFINING THE ARCHITECTURAL SPACE TRANSMUTATIONS OF CONCRETE

DEFINIOWANIE PRZESTRZENI ARCHITEKTONICZNEJ
TRANSMUTACJE BETONU

MONOGRAPH / MONOGRAFIA

Edited by
Maria Misiągiewicz

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Contents

Spis treści

DARIUSZ KOZŁOWSKI

Concrete and the Masters of the Transmutation of Matter

Beton i mistrzowie transmutacji materii 7

JOANNA STOŻEK

A Concrete Cuboid – Philosophical Egg of the Dead

Betonowy prostopadłościan – jajo filozoficzne umarłych 17

TOMASZ KOZŁOWSKI

Does Architectural Concrete Need a Definition?

Czy beton architektoniczny potrzebuje definicji? 27

TERESA BARDZIŃSKA BONENBERG

Frank Lloyd Wright – Concrete in a Maestro’s Hands

Frank Lloyd Wright – beton w rękach mistrza 41

GINO MALACARNE

Construction and Character, the Architecture of Auguste Perret

Konstrukcja i charakter, architektura Auguste’a Perreta 53

ARMANDO DAL FABBRO

Architecture as Total Structure

Architektura jako struktura totalna 63

SŁAWOMIR GZELL

The Bauma Paving Block

Kostka Bauma 73

ALBERTO PRATELLI

From Common to Special: a Matter of Design and Craftsmanship

Od powszechności do wyjątkowości: kwestia projektu i kunsztu 77

RAIMUND FEIN

Danced with Concrete – The Art of Eduardo Torroja

Taniec z betonem – sztuka Eduardo Torroja 85

ZVI HECKER

Reinventing Roman Concrete to Surpass Gothic Cathedrals

Udoskonalanie rzymskiego betonu, by przewyższyć gotyckie katedry 91

ANTONIO MONESTIROLI

Architecture and Its Teaching

Architektura i jej nauczanie 95

BONAWENTURA MACIEJ PAWLICKI

Wood – Stone – Iron – Concrete – Structural Concrete

Sztuka konstruowania drewno – kamień – żelazo – beton – strukturalny beton 105

ARMANDO DAL FABBRO*

ARCHITECTURE AS THE TOTAL STRUCTURE

ARCHITEKTURA JAKO STRUKTURA TOTALNA

Abstract

The article reflects on the two architects who played a significant role in building a unique architectural and urban imagination on the world-wide panorama of contemporary architecture. The author refers to the Argentinian architect Amancio Williams (1913–1989) and his design of Casa del Puente in Mar del Plata and the “Umbrellas” – special thin shell structures – and to the Italian-Argentinian architect Clorindo Testa (1923–2013) and his two most representative works, both built in Buenos Aires, the Bank of London and South America and the National Library. The works are analysed according to themes that refer to concrete architecture and its possible linguistic and constructive declinations. Particularly to the meaning of form in the function of the structural-material component, and to the laws governing the relationship between static solids and architectural solutions.

Keywords: Amancio Williams, Clorindo Testa

Streszczenie

Tekst odnosi się do twórczości dwóch architektów, którzy odegrali znaczącą rolę w budowaniu unikalnej architektonicznej i urbanistycznej formy w architekturze współczesnej. Autor opisuje prace argentyńskiego architekta Amanso Williamsa (1913–1989); jego projekty Casa del Puente w Mar del Plata i „Umbrellas”, a także włosko-argentyńskiego architekta Clorindo Testa (1923–2013) i jego dwa najbardziej reprezentatywne prace: Bank of London i London and South America and the National Library. Prace analizowane są według tematów odnoszących się do architektury betonowej i jej możliwych językowych i konstrukcyjnych odmian. Zwłaszcza w odniesieniu do znaczenia formy w funkcji składnika strukturalno-materialnego i prawa regulującego związek między materiałem a rozwiązaniami architektonicznymi.

Słowa kluczowe: Amancio Williams, Clorindo Testa

* Assoc. Prof. Ph.D. Arch. Armando Dal Fabbro, Università IUAV di Venezia.

1. Foreword

The theme of the seminar organized this year at the International Architectural Conference of the Cracow University of Technology gives the author the opportunity to reflect on two particular figures of international architecture that have played a significant role in building a unique architectural and urban imagination in a global panorama of contemporary architecture. The author refers to the Argentinian architect Amancio Williams (1913–1989) and his design of Casa del Puente in Mar del Plata and the “Umbrellas” – special thin shell structures – and to the Italian-Argentinian architect Clorindo Testa (1923–2013) and his two most representative works, both built in Buenos Aires, the Bank of London and South America and the National Library.

2. Amancio Williams, the engineer’s aesthetics, the architect’s style

It may seem easy enough, at first, to place the work of the Argentinian architect, Amancio Williams, in the crucible of that small bunch of visionaries and particularly singular innovators of modern European architecture who contributed actively but, in a way, peripherally and intermittently to the construction of the twentieth-century architectural culture and thought. On the other hand, one must recognize their strong radicality; an affinity of spirit and creative thought, a declared constructional indole of what we could call an expressive rationality of architectural-technical matrix that made each of them in his own way and each pursuing his own vocation, unique in the cultural landscape of modern architecture.

These affinities can be perceived as a reflection of the many projects and the few accomplishments that Amancio Williams produced when compared with the works of some brilliant innovators and builder masters like Konrad Wachsmann and Jean Prouvé or elementary visionaries such as Frederick Kiesler or Mart Stam. What still connects them is the strong attachment to an extreme view of architecture, extremely technical, for some unreasonably functionalist, which in any case does not share anything either with the formalist post-Le Corbusier language and its epigones or with technical fetishism, being all about technical innovation and tout court technology.

The particular preference for the clarity of expression and the constructive rigour found in Amancio Williams’ projects, which closely resembles the principles of Mies Van der Rohe’s works, as well as the deep and sincere admiration from Le Corbusier, later shared unconditionally by Max Bill in the appreciation of the plastic and spatial solutions of his structures/architecture, place him at the highest levels of 20th century architecture.

Being a pioneer and a forerunner of the new architecture, almost all of his designs have remained unconstructed, but the theoretical contribution of his work was particularly relevant, affecting the image and taste of the radical – rioplatense – architecture despite the smallness of the buildings, which coincided intimately with its poetic and stylistic figures.

Unlike such architects as Mario Roberto Alvarez, the same age, or Clorindo Testa, ten years younger – one of the few who has worked out aspects and reflections of his design

heritage, especially in his early works (e.g. the Bank of London and South America and the National Library in Buenos Aires) – Amancio Williams has always been considered a visionary architect with many innovative designs for his time but without built works. He was a visionary and idealistic poet with the pragmatism of the builder and the awareness of the technique's role in architectural construction. The need for deep knowledge of technique will lead him to have a great respect for the role and work of the architect, according to the classic concept of a master, universal man, constantly projected towards the New.

Amongst his theoretical projects, which remained on paper only, the House on the Brook – also known as the Bridge House – makes an exception. Designed and built for his father, the famous musician Alberto Williams, between 1943 and 1945 in Mar del Plata, it is perhaps his only fully completed work. The revolutionary architecture, conceived as a single three-dimensional, box-shaped structure that reminds of Robert Maillart's bridges from the 1930s, and rises high above the ground in the Corbusieran way. Owing to its technical elements and figurative solutions, it is one of the masterpieces of 20th century architecture, such as Le Corbusier's Villa Savoye (1929) or Mies van der Rohe's House Tugendhat (1930).

Presenting the works of Manteola, Sánchez Gómez, Santos Solsona and Viñoly on Casabella (1981), Kenneth Frampton speaks about the "architectural setting of Buenos Aires, which despite all its European connections, has long shown its particular taste whose overwhelming mega-form or rooted residential typology is the basis of an extremely powerful form. Of course I am referring to the tradition created by the enigmatic figure of Amancio Williams; a gifted designer whose influence was completely disproportionate compared to his limited production." It was a "disproportionate influence", but Frampton himself admits it has proved to be the source of insights and fundamentals to younger generations: a lesson in style and a sense of being rooted in a geographic context and a unique natural landscape (that of Argentinian Pampas), which has been able to bring Amancio Williams' personal research into a paradigmatic language.

Identity and a strong sense of belonging to the nature of his country were the two fundamental aspects of his poetics, constantly present throughout his experience of both work and theoretical reflections, exercised by Amancio Williams also through his past as aviator and photographer.

The theme of the relationship between structure and poetics will be a constant of his work, and the use of pure geometric forms will dominate the structural choices of architectural design. The integration of several aspects brought to a single value will lead to a new vision of Amancio Williams' architecture, which will be explained in some significant and paradigmatic works.

The House on the Brook in Mar del Plata, built between 1943 and 1945, is located, as mentioned, in the modern tradition but with a particular stylistic declination revealing the value of the work outside of the modern schemes. Ultimately, it rests on the ground only in two extreme points.



III. 1. “Umbrellas”, Amancio Williams

III. 2. Banco de Londres y América del Sur, Clorindo Testa

The same thing happens, for example, with the studies for the design of thin shell structures, the so-called “umbrellas” made between 1951 and 1966. Two projects designed in accordance with the interpretative idea of architecture that is to be liberated from the ground and is ready to levitate simply upwards as if it were a natural movement of earthly things.

This attitude is in continuity – albeit with different characters which will be discussed after the detail analysis of Clorindo Testa’s creative work – with some of Le Corbusier’s previous and contemporary ideas, starting with, for example, the project for the Liège exhibition from 1939, which was later reformulated in the exhibition pavilion of Port Maillot in Paris in 1950, and then further refined and detailed in the project for the Ahremberg Palace in Stockholm in 1962 and finally built in Zurich in 1964 as the Maison de l’Homme. The experience ends with the most controversial project of this research, namely with the proposal for a Hospital in Venice, perhaps its most extreme work.

Starting from these two very different works, we see an attempt at interpreting architectural space, in the first case through the theme of the bridge house on the brook, in the second case encoded in a thin 5 centimetre-thick concrete element, repeated and supported by a single central column completely separating the cover from any soil contamination, a sort of a free section resembling Le Corbusier’s plan libre, and focusing on the principle of the great cover that dominates everything and covers everything.

3. Clorindo Testa. Architecture-Sculpture¹

The Banco de Londres y América del Sur (1959) and the Biblioteca Nacional de Buenos Aires (1962) are the two recognized masterpieces of the architecture of Clorindo Testa. These two works are in a way part of the so-called brutalist tradition of the international architecture of the sixties, but with a distinct peculiarity that distinguishes them from contemporary projects, starting from the béton brut’s Corbusieran experience.

One can recognize the work of Clorindo Testa from the power to regenerate itself continuously, transplanting European cultural traditions in the urban pattern of the city of Buenos Aires, the settlement rules of the Hispano-American Quadricula with new and astonishing spatial complexities. It is the manifestation of poetics resulting from the overflowing creativity of the artist, the result of an extraordinary plastic capacity in shaping the architectural form.

In this sense, the architectural work of Clorindo Testa is not to be kept separated from its equally significant work as a painter and sculptor, which has made him a unique case in the Argentinian contemporary art scene, with an autonomy in the linguistic and figurative expression that he could emancipate both from postmodern fashion and from the legacy of a regionalist modernism.

Putting aside the modernist styles, many of them from Le Corbusier, such as the façade solutions of the administrative building of Santa Rosa de La Pampa Civic Centre from 1956,

¹ Part of this essay was published in *Architettura del Novecento*, Turin 2013.



Ill. 3-4. National Library, Clorindo Testa

where the use of brise soleil in façade solutions is prevailing, these two works are identified for constructional choices and structural solutions that, far from being conventional, are still highly innovative today, further enriched and declined in the particular relationship they establish with the context, whether it be the foundation city, as in the case of the Banco de Londres y América del Sur, or large green areas of an unfinished urban system such as the Biblioteca Nacional de Buenos Aires.

The Banco de Londres y América del Sur building was the result of a private competition launched in 1959; built between 1960 and 1966, according to the design of Clorindo Testa together with Santiago Sanchez Elia, Federico Peralta Ramos and Alfredo Agostini, it is located in the heart of the financial micro-city of Buenos Aires, built on a corner lot of one of Manzanes in the central area of the foundation city, close to the metropolitan cathedral. Today it is considered a milestone of Argentinian architecture.

The perforated silhouette of the monumental system of the Banco develops at an area of about 50x90 metres at a height of 30 metres, up to the technical roofing, and the constructional principle for its implementation is intrinsic to the testian concept of “architecture as the total structure.” The expressive possibilities of reinforced concrete are shown in this project in all the plastic potential of the raw material: both in the geometric-structural logic of construction and in the formal design of each architectural element. The façade geometry, as well as the plastic shape of the columns, faithfully resembles the modulation of interior design elements, consistent with the general logic of the large structural envelope of reinforced concrete.

In a few sketches, Clorindo Testa gives us the overall idea of the project, both from a typological point of view, its functional-distributive relationships, and the clear interrelationship between the interior and the exterior. The building is basically divided into three superimposed parts, with a central area open to the public, while the upper and lower parts are for private use and services.

The interior space is conceived as a large covered square supported by a single large armoured concrete enclosure, within which there is a space that sometimes offers “Piranesian” views, animated by architectural episodes and overlapping top floors; the first two supported by large double T pillars, the other three suspended at the roofing ribbed by steel tensors. The five floors are completely free from the sidewalls and connected to the central lifts by flying bridges. The sixth floor, located above the support deck, at the height of 27 metres, acts as a service plan for bank employees and officers. There is the meeting room, two dining rooms, kitchens and a large garden terrace for relaxing.

The urban significance of construction is given by the relationship that the envelope establishes with the road and with the corner solution, in the image of the building that does not seek mediation with the academic language of the neighbouring bank buildings, but whose transparent concrete arched texture of the façade reveals the general vision of the city life, producing a continuous play of reflections and transparency, between the glass walls supported by a thin aluminium structure that embodies the workplaces which separate them from the loud space of the street. Near the corner of the block, the façade is interrupted, and the cement screen remains suspended in the void, indicating a monumental entrance to the bank.

In the Biblioteca Nacional de Buenos Aires of 1962, which is a project conceived shortly after the competition for the Banco de Londres and America del Sur, a new astonishing

composition of urban space is created, with as much stylistic force and without contextual mediations.

Compared to the character of the bank's building, which is elegantly shaped according to the principle of settlement of the founding city, the library named after Mariano Moreno, named in honour of the founder of the first Public Library inaugurated in 1810, appears as a stranger object, an apparition, which is placed in spatial discontinuity with the urban frame of adjacent residential buildings.

Although the design process was long and complex, started and interrupted several times between 1971 and 1992 until the official inauguration in 1993 and the opening only in 1995, the project has retained all the characteristics that made it representative of the sixties, that is an era still tied to an idea of public building – for some hieratic and solemn in its constructional and volumetric-monumental lines but still an expression of a strong architecture plastic impact today.

The project, drawn up with the architects Francisco Bullrich and Alicia Cazzaniga, is part of Le Corbusier's postulate of freeing the ground level by raising the building volume and establishing a pedestrian and visual continuity with the surrounding. The theme from which the project moves is to get a large covered public square, in continuity with the urban park, through an architecture half-excavated-in and half-raised-from the ground. This design choice was due to the will to preserve the park and to allow library users to contemplate the river and the urban landscape in the distance from the reading rooms on the upper floors. The volume of the library would become the scenic and conclusive backdrop of the Rubén Dario Square.

Still, most of the library's surface is in the underground. Indeed, in the four underground floors, the deepest one being left for future acquisitions, there are the main book storage areas, staff entries and bibliographic material, book repair and restoration workshops, micro-films and technical services, as well as the main newspapers reading hall, directly accessible from the park through wide pedestrian ramps linked to the main roads.

Choosing to leave the mass of unused and heavier books in the underground basement of the building has made it possible to produce an extraordinary project, raising the auditorium into the air, placing the reading rooms, exhibition halls, etc. at the highest point.

Looking at the library from the side of the auditorium's bulk, the library seems to evoke a large prehistoric animal, a glyptodont, transforming itself according to varying views and urban frameworks. The tremendous volume that emerges from the ground has a total weight of around 8,000 tons – and is supported by four hollow columns called “*manos y patas*” where one can find escalators and elevators.

The four struts support two main structural floors, the first at the height of 16.49 metres, and the second at the height of 32.40 metres from the square below. These main structural floors, in turn, support with the use of tensors a second system of hanging floors, the intermediate floors. Below the first floor – containing the so-called special rooms with their cataloguing centres and the reserved reading rooms – are located the first two intermediate floors. Here one can find the auditorium for up to 3,000 people, the exhibition hall, the management offices and the cafeteria with its terrace. On the second floor, over the intermediate floors, linked by a long ramp, there are the general consulting rooms and the main reading rooms.

Some particular detail solutions help make this body elegant and polished in its powerful size and make it feel light and measured. One example is the subtle “*davantino*” placed

around the upper glass pane of the reading rooms, a sort of reinforced concrete “chest” with the thickness and the visual weight of a folded sheet of paper.

The solution of the suspended building has allowed to maintain the visual continuity of the ground with the surrounding landscape and at the same time to create the covered square with the hall and the main access to the library.

It is the space of the city that, in the library, as it has been recognized in the bank’s project, has a particular compositional value. Although these projects belong to the period of the so-called first Clorindo Testa’s maturity, that is they are somehow still linked to the postulates of the Corbusieran matrix and to the strongly expressive concepts of totalist architecture, they are the prodromes of that creative and overwhelming vitality that one will find expressed in many of the following projects.