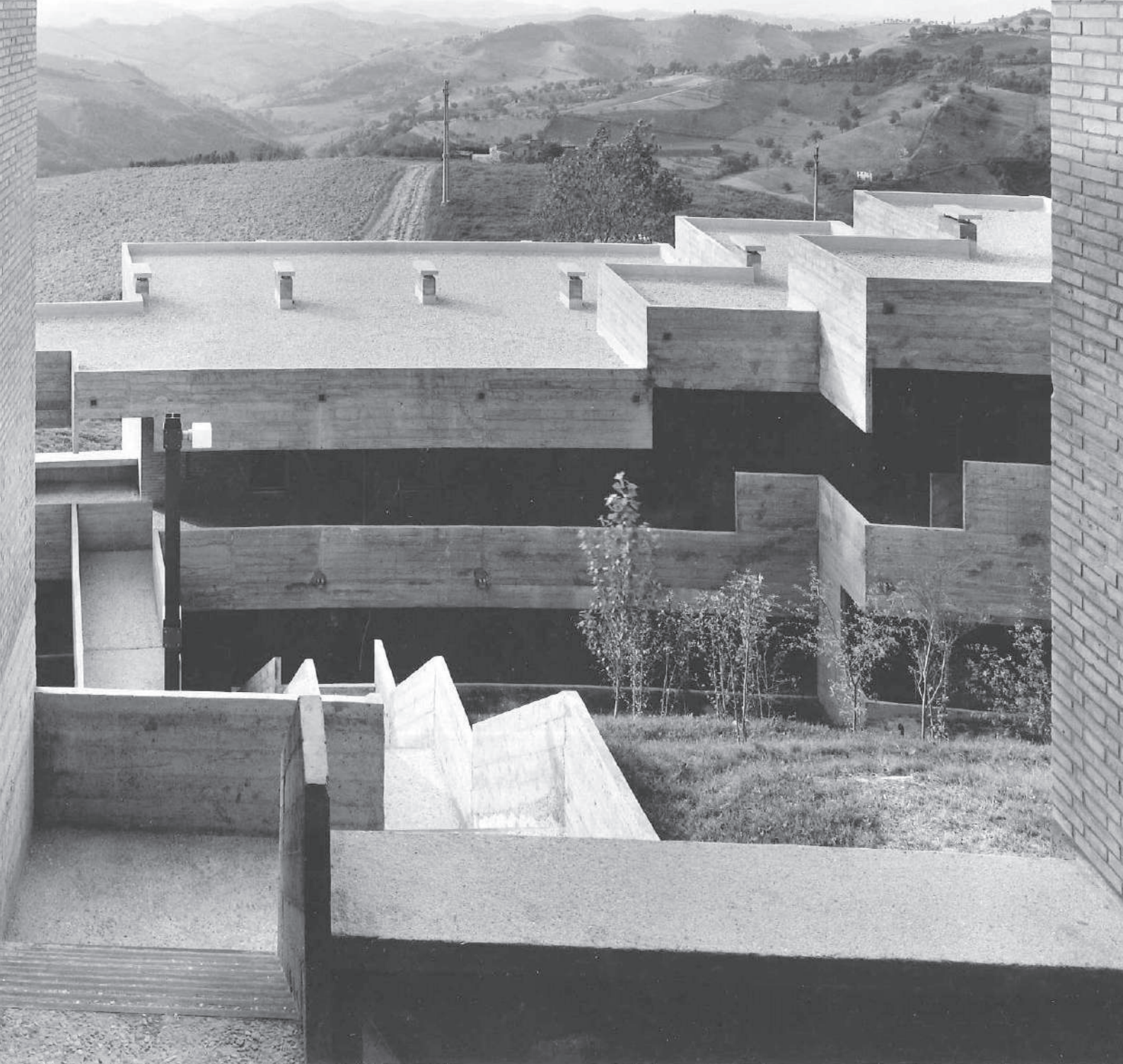


Giancarlo De Carlo **"Collegi " in Urbino**

Conservation Plan



I. Introduction

Part1. Overview

Urbino, a Renaissance city located within the region of Le Marche, Italy. Notable as a UNESCO heritage site. As well as the home of the University of Urbino, with a history dating back to its establishment in 1507. The campus amenities are scattered within and around the city, hence the motto "Urbino: a city campus".

In the period of Amintore Fanfani as the prime minister of Italy the improvement for the educational system were conveyed and offered the University Dean the financial resources. At that time, Carlo Bo, along with the major and other farsighted politicians, believed in the need of strengthening the cultural institutions as a whole and shared a will to coordinate with each other on the theme of the redevelopment of the historic center and the conservation of the landscape.



the relationship between the city's texture and shape and morphology of the territory with agricultural patterns clearly visible.

This movement included a town plan (1958-1964), several renovations of departments such as the school of education and the faculty of economics, as well as the expansion complex of "collegi", also known as the halls of residence. All the projects were led and entrusted to Italian architect Giancarlo De Carlo.

This report focuses on the "collegi" located just a 15-minute walk from the city center. The complex consisted of 5 parts: the "Colle"(1962-1965), the "Nuovi Collegi"(1973), the "Tridente"(1973), the "serpentine"(1973), and the "Aquilone"(1973).The complex was built to accommodate the fast-paced urban growth of population within the city and the university.

Part2. The Architect

Following the end of World War 2 the social realities at the time were in need of fast pace rebuilt and the international style was at its zenith with focus on simplicity and functionality.

Though De Carlo respected aspects of the international style but he still protested against the rigidity of the Modern Movement and the International Style, as well as the mindful of the inhumanity of postwar housing, with its disregard of scale. He believed International style is very narrowed to the exclusive focus on the opinions and preferences of architects themselves, aesthetics, and functionality. In some cases, the International Style may not fully engage with the social, cultural, and historical context of a site or community.

De Carlo was known to be a modernist who honors the heritage of the past, with knowledges deeply embedded with historical consciousness and aimed for the continuity between old and new. He was nourished in the postwar reconstruction of Milan : In Milan, a city devastated by the bombings of the war, they supported reconstruction as an opportunity to apply the principles that emerged from the debate on contemporary city, included the issue of architectural language and the relationship between the present and the past.

As well as being a pioneer in participatory architecture, maximizing the communication and collaboration between the users and the architect. For this reason De Carlo was appointed as visiting professor at Yale University, invited by Paul Rudolph, and this new experience broadened his understanding on students and faculties interaction in University campuses.

In consequence De Carlo being chosen to be the leading architect for this specific project was just right for the goals of Carlo Bo and the major as to strengthen the cultural institutions.



At Milano Triennale with Walter Gropius, Ignazio Gardella and Franco Albini, 1948.



Right.Giancarlo De Carlo.
(Photo Kunstgewerbeschule, Zurich)
Left.Carolo. (Photo Cesare Colombo)

Part3. The Design significance of the complex

The Le Marche region is renowned for agriculture and rolling hills of vineyards and more. De Carlo designed the "collegi" to so that it co-exists with the landscape. It is being described as threshold buildings, a definition that perfectly fits based on this constant dialogue with the landscape. There is no boundary, nor is there an effective limit between the building complex and the country; nature and buildings are complementary and engage each other without interruption. The design façade of Urbino focuses outwardly, indicating its receptiveness to the land, emphasizing its aesthetic value, and recognizing, perhaps for the first time, the role of landscape. To strengthen it De Carlo paid the attention to the social, geographical and historical context of the project, the use of raw materials (especially exposed bricks and concrete).

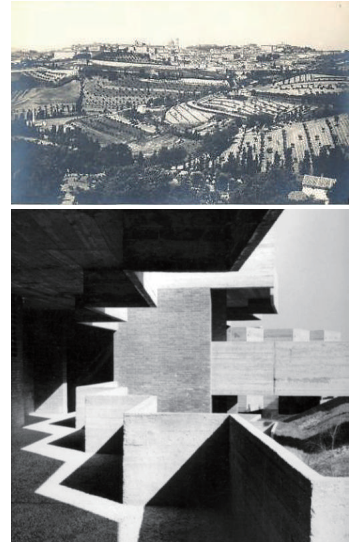
In result the form is the outcome of a conceptual commitment to create seamless continuity between the city, the university and the nature.

Moreover the complex was designed to provide a unique life experience, not just an accommodation, and common and public spaces, in which people can meet informally, study, discuss, relax or simply hangout, prevail the over the private ones. And, unusual in those days, men and women shared the same spaces, and there was no clear demarcation between the areas that are dedicated to the students and those that are open to the citizens. This offered an attractiveness compared with the historical city and to contrast the tendency for "individualistic closure.

He was being influenced by Anglo-Saxon campuses such as New Court at Christ's College, Cambridge 1966-70 by Denis Lasdun and St. Andrews University, Scotland 1964-68 by James Stirling. He also developed the theme of network which its goal to simulate the design of European cities where public and private intertwine and give the form to the city itself, which again he developed this through the inspiration of other universities in this case the Free University Of Berlin.

Once commented by Pierluigi Niccolin in an interview: "an aviation pioneer told me that when he flew over Urbino with his small plane it was difficult for him to locate the city because he could not disentangle it from the equally complex and quite similar pattern of the surrounding landscape.

In conclusion is by this unique description of the project written by Van Eyck: "What makes this building a home and a city (in short the reason of its success) besides the consistent use of the same construction, the same vocabulary, the same materials and the same colour everywhere, Is another shrewdness. It is its being two places at the same time: open and closed, indoor and outdoor, large and small, with both individual and collective significance. It belongs to the building to the same extent as it belongs to the area and in fact with this arrangement the building is the area and vice versa (.....) I think I have never seen a building that gives more (from inside) to the landscape of how much it receives, by interiorizing it, articulating it and differentiating it: in fact, to being able to receive as much, it would be necessary to make a very long walk in the countryside."



Overall image of the "Collegi".(Photo Fulvio Palma, Urbino)

I. Introduction

第一部分：簡介

烏爾比諾 (Urbino) 是位於意大利萊馬爾凱 (Le Marche) 地區的文藝復興城市，以其聯合國教科文組織的文化遺產地而著名。同時，它也是烏爾比諾大學的所在地，該大學可以追溯到1507年的建立。校園設施分佈在城市內外，因此有了“烏爾比諾：城市校園”的口號。

在安敏托雷·范法尼 (Amintore Fanfani) 擔任意大利總理期間，對教育體系進行了改進，他為數個大學校長提供了財政資源。在那個時候，卡洛·博 (Carlo Bo) 與烏爾比諾 (Urbino) 市長和其他有遠見的政治家一同相信需要加強整體文化機構，並共同協作以重建歷史中心和保護景觀。



城市的紋理形狀與領土形態之間的關係清晰可見，具有明顯的農業模式。

這一運動包括城市規劃 (1958-1964年)，以及一些系館的翻新，如教育學院和經濟學院，還有“collegi”建築群的擴建，也被稱 Halls Of Residence。所有這些項目都由意大利建築師吉安卡洛·德卡羅 (Giancarlo De Carlo) 領導和委託。

本報告聚焦於距離市中心僅15分鐘步行的“collegi”。該建築群包括5個部分：Colle (1962-1965年)、Nuovi Collegi (1973年)、Tridente (1973年)、serpentine (1973年) 和Aquilone (1973年)。這個建築群建設是為了應對城市和大學人口的迅速增長而進行的。

第二部分：建築師

在第二次世界大戰結束後，當時的社會急需快速重建，而國際風格正處於其巔峰，著重於簡約和功能性。

儘管德卡羅 (De Carlo) 尊重國際風格的某些方面，但他仍然抗議現代主義和國際風格的刻板，以及戰後住房的不人道，包括對尺度的忽視。

他認為國際風格過於狹隘，過度專注於建築師自身的意見、美學和功能性。在某些情況下，國際風格可能無法充分融入一個地點或社區的社會、文化和歷史背景。

德卡羅 (De Carlo) 被認為是一位尊重過去遺產的現代主義者，擁有深度歷史意識的知識，並致力於新舊之間的連續性。他在戰後米蘭的重建中受到滋養：在這座被戰爭轟炸摧毀的城市，他們支持重建作為應用從對當代城市辯論中出現的原則的機會，包括建築語言和現在與過去之間的關係。

他同時也是參與式建築的先驅，極大地促進使用者和建築師之間的溝通和合作。因此，德卡羅 (De Carlo) 被任命為耶魯大學的客座教授，由保羅·魯道夫 (Paul Rudolph) 邀請，這一新的經驗擴大了他對大學校園中學生和教職員互動的理解。

因此，德卡羅被選為烏爾比諾 (Urbino) 項目的首席建築師，正好符合卡洛·博 (Carlo Bo) 和市長的目標，即加強文化機構。



在1948年的米蘭三年展上，與瓦爾特·格羅皮烏斯 (Walter Gropius)、伊格納齊奧·加德拉 (Ignazio Gardella) 和弗朗科·阿爾比尼 (Franco Albini) 一同。



Right: Giancarlo De Carlo. (Photo Kunstgewerbeschule, Zurigo)
Left: Carlo. (Photo Cesare Colombo)

第三部分：綜合體的設計意義

勒馬爾凱 (Le Marche) 地區以農業和連綿起伏的葡萄園而聞名。德卡羅 (De Carlo) 設計的“collegi”旨在與這片風景共存。它被形容為擴域 (Threshold) 建築，這個定義完美地貼切了與風景之間的持續對話。建築與鄉村之間沒有界限，建築群與自然交融，彼此間無間斷。烏爾比諾 (Urbino) 的設計立面向外開放，表明它對土地的開放性，強調其美學價值，並首次認識到與景觀的角色。德卡羅 (De Carlo) 關注該項目的社會、地理和歷史背景，尤其是原材料的使用（裸露的磚塊和混凝土），以加強這一點。

結果呢，形式成為一種概念上的承諾，旨在實現城市、大學和自然之間的無縫連續性。

此外，該建築群的设计旨在提供獨特的生活體驗，不僅僅是住宿。公共和共享空間佔據主導地位，人們可以在這裡非正式地見面、學習、討論、放鬆或簡單地閒逛。當時的不同之處在於，男女共享相同的空間，並且學生專用區域與對市民開放的區域之間沒有明確的分界線。這相對於提供了歷史悠久的城市的吸引力，並抵制了“個人主義”的趨勢。

他也受到盎格魯薩克遜 (Anglo Saxon) 校園的影響，例如丹尼斯·拉斯登 (Denis Lasdun) 設計的劍橋大學基督學院的新法院 (1966-70年) 和詹姆斯·斯特林 (James Stirling) 設計的聖安德魯斯大學 (1964-68年)。他還發展了網絡主題，旨在模擬歐洲城市的設計，其中公共和私人交織在一起，形成城市本身的形式，這也是他從其他大學中獲得的靈感，例如柏林自由大學。

一位飛行先驅曾在一次訪談中評論：“當他用小飛機飛越烏爾比諾時，他很難辨認這座城市，因為他無法將其從周圍同樣複雜且相似的景觀模式中區分開來。

總之，根據梵·艾克的獨特描述，這座建築之所以成為家和城市的原因（總之，其成功的原因）除了在所有地方一致使用相同的結構、詞彙、材料和色彩外，還有另一個巧妙之處。它同時是兩個地方：開放和封閉、室內和室外、大和小，具有個人和集體的意義。它同樣屬於建築，也同樣屬於區域，實際上，憑藉這種安排，建築就是區域，反之亦然（.....）我想我從未見過一座建築從內部對景觀施以如此多的付出，以至於它所接收的，通過內化、表達和區分它：事實上，要想接收這麼多，就需要在鄉間行走很長一段路。”



"Collegi"的整體形象。(Photo Fulvio Palma, Urbino)

II. Statement and Definition of Significance

Part1. History-From White Boxes to local architecture



1977. Team X meeting at Bonnieux.

Carlo denounced the modernism that was prevalent at the time for being only frivolous and superficial in its focus on style, without paying attention to users and the urban environment. He believed that architects should be educators, designers and builders. For example, in 1980, a case by the Venice Lagoon came from Users are involved from design to construction, and the form integrates the natural environment and local traditions to evoke memories of the past.

From urban planning (1958~1964) to university dormitories (1962~1966), since the mountain town where he is located has many Renaissance buildings, Carlo opened a dialogue between the old city and the surrounding environment. The expansion of the college after 1973 also continued to use landscape patterns to simulate past landscape memories to cultivate students' sense of community.

Carlo witnessed Team X breaking away from CIAM with new ideas, emphasizing the relationship between people and the environment, society, users, history, culture and architecture. And Carlo emphasizes participatory architecture, making buildings integrated into the city like intertwined streets, trees, and aisle systems. He founded ILAUD (International Laboratory of Architecture and Urban Design) based on the principles of Team X, which is held every year at the University of Urbino.

Part2. Landscape-Buildings That Grow Into The Landscape

-Landscape and Architecture

The addition of the university changed the positioning of the old city, making it centered on culture and education. On the other hand, it cut off the connection with rural farmland and placed them in the background of passive edges.

The facade and windows of this case are both facing the external environment. In the form of the University of Urbino, we can see the Italian Renaissance's vocabulary of landscape as the background. The viewing direction is reversed, so that the life scene in the city can be viewed from the outside.

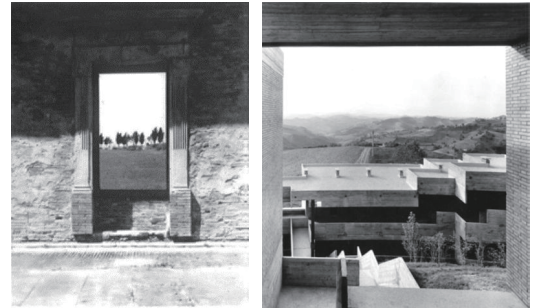
-Cityscape reproduction

The combination of functional spaces creates a transitional space between public and private spaces. Public spaces are scattered informally on the outdoor paths of the campus. Colleges are connected by public spaces, as if seeing a complex and free composition system of urban space.

-Natural landscape reproduction

Because of the emergence of aerial photography, people can see the appearance of human activities on the landscape: cultivated fields, ditches, and rows of trees appear as diagonal lines and blocks on steep slopes. In the last century, the balance between rural and urban areas has changed, and the geometric patterns of cultivated land and the terrain have become collegi's form.

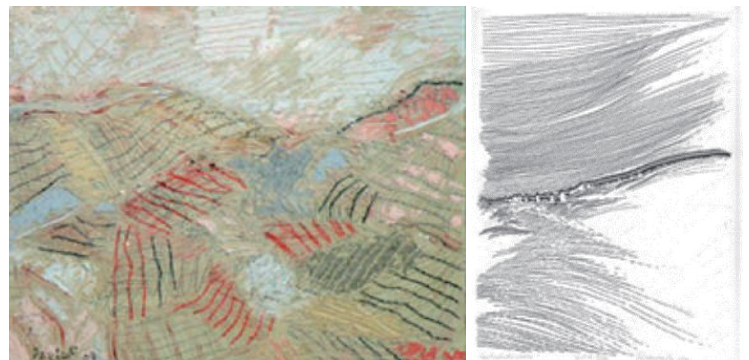
The composition, height, and volume of the unit sequence are all the result of changing the terrain of the hillside, providing a complex social experiment space.



The roof garden of the Palazzo Ducale. "Colle" Pathways and residential cells. (Photo Cesare Colombo)



Bird's eye view of the territory



A Tullio Pericoli painting and a Renato Buscaglia prints represents the Marche landscape.

Part3. Materials-Old Materials With New Appearance

The traditional brick load-bearing wall takes into account the continuous repetition of the college units and therefore adopts a spine-like structure. The material and continuous repetition make it closer to traditional architectural forms and techniques. But when combined with light in public spaces, it creates a unique appearance.

The concrete is poured to create complex and endless geometric structures, showing the relics of ancient culture; by deliberately retaining the traces of the wood grain on the formwork on the surface of the concrete structure, the exquisite carpentry skills are emphasized.



"Colle". Common pathways. (Photo Kunstgewerbeschule, Zurigo)

Part4. Social value of the complex

-Space for social activities

Students' independent gatherings in the community have brought a new social environment to urban residents. However, residents' favorability towards this has dropped significantly recently.

-Place inside a place

The experience of gathering and sharing in the city remains in the memories of old residents. Residents now go downtown just to attend classes. Therefore, activities are held within the complex.

However, systemic and environmental factors disrupt the flow of activities and people into the historic area.

-Place of residence

Different from ordinary student dormitories in the historical center, the separation from the old city consolidates the residents' sense of identification with the enclosed environment. The closely intersecting spaces provide a place for daily communication. The close relationship between people makes this place feel like a home.

-The Attachment of Live to buildings

Whether symbolic or material, close interpersonal and social relationships become the identifying element of a community.



"Tridente". The stairs to the terraces.



"Tridente". Stair inside the double floor living.



"Aquilone". Dorms, common area.



"Tridente" top floor. Internal room of "Colle".



"Vela". View from the terraces roofs.
(Photo Antonio Garbasso)

II. Statement and Definition of Significance

第一部分：歷史-從白盒子到當地的建築



1977. Team X meeting at Bonnieux.

Carlo譴責當時正盛行的現代主義只是輕浮且膚淺的對風格關注，而沒有關注到使用者與城市環境，認為建築師應當是教育者、設計師與建造者，如1980威尼斯潟湖邊一個案子從設計到建造都有使用者一起參與，形式融合自然環境與鄉土傳統以喚起過去的回憶。

從城市規劃(1958~1964)到大學宿舍(1962~1966)，因著所在山城擁有許多文藝復興時期建物，Carlo開啟了舊城區與周邊環境的對話。1973後的學院擴建也不斷運用地景的圖案模擬過去的地景記憶以培養學生的社區意識。

Carlo見證了Team X帶著新主張從CIAM脫離出來，強調人與環境、社會、使用者、歷史文化與建築的關係，並且Carlo強調參與式建築，使建築如交織在街道、綠樹、過道系統一樣融入於城市中，另外他根據Team X的原則創立了ILAUD（國際建築與城市設計實驗室）每年都在Urbino大學舉行。

第二部分：地景-長成風景的建築

■ 景觀與建築:

大學的加入改變了舊城區的定位，變成以文化與教育為中心，另一方面切斷了與鄉村農地的聯繫，將它們放置到被動邊緣的背景裡。

此案例的立面與窗口都是面向外部環境，在Urbino大學的形式看到義大利文藝復興將景觀作為背景的語彙表達，翻轉了觀看方向，得以從外部觀看城市內的生活景象。

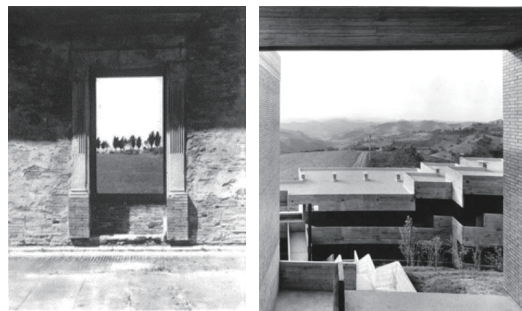
■ 城市景觀再現:

機能空間的組合產生公私之間的過渡空間，公共空間不制式地散布在校園室外路徑上，學院之間被公共空間相連，彷彿看到城市空間複雜且自由的組成系統

■ 自然景觀再現:

因為航拍圖的出現，人們可以看到人類活動在地貌上的樣子:耕地、溝渠、成排的樹木在陡坡上以斜線與圖塊的樣貌顯現。上世紀農村與城市平衡改變，耕地的幾何圖樣與地形疊合成為collegi的型態

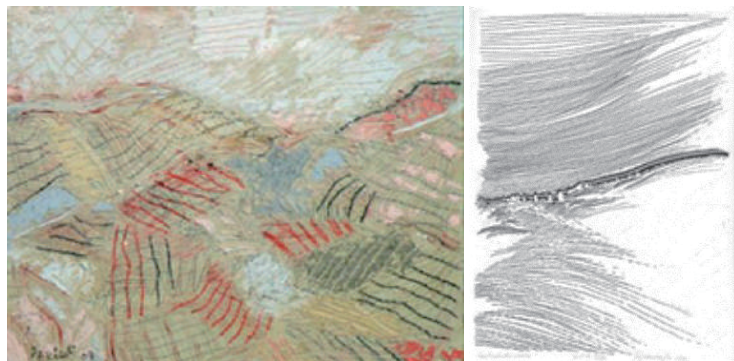
透過單元序列的組成、高度、體積都是按著山坡地形變化的結果，提供了複雜的社會性實驗空間。



Palazzo Ducale的屋頂花園。“Colle”的步道和住宅單元。
(Photo Cesare Colombo)



鳥瞰城鎮



一幅Tullio Pericoli的畫和一張Renato Buscaglia的版畫代表了Marche的地景

第三部分：材料-舊樣態新樣貌

傳統的磚砌承重牆，考慮到學院單元的連續重複因此採如脊椎骨架的結構，而材料及連續重複的性質使他更接近傳統的建築形式與技術，卻在公共空間中與光線結合後產生新的樣貌。

混凝土澆灌出複雜且無盡的幾何結構，展現出古文化的遺跡；透過刻意保留模板上的木紋在混凝土結構物表面上顯現的痕跡，強調了精湛的木匠技術。



"Colle"的共用步道。(Photo Kunstgewerbeschule, Zurigo)

第四部分：綜合體的社會價值

■ 社交活動的空間：

學生在社區中的自主性的聚會為城市居民帶來新的社交環境，然而近來居民對此的好感度大大下降

■ 城中城(place inside a place):

在城中聚集分享的經驗存留於老居民的回憶裡，現在居民去市中心只為上課，因此活動都在綜合體內進行，然而系統與環境因素破壞了活動與人群往歷史區流動的方向。

■ 居住的場所：

有別於歷史中心的普通學生宿舍，與舊城區分離鞏固了居民對圈圍起來的環境有認同感，緊密交叉的空間提供日常交流的場所，人們之間的關係密切使這裡如家一樣有歸屬感。

■ 生活對建築物的依戀：

無論從象徵或物質的角度，緊密的人際與社會關係成為了社區的識別元素



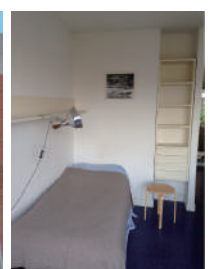
"Tridente". 通往露台的樓梯。

"Tridente". 雙層起居空間內的樓梯。

"Aquilone". 宿舍，共用區域。



"Tridente" 頂樓。"Colle"的內部房間。



"Vela". 從露台屋頂眺望的景色。(Photo Antonio Garbasso)

III. . Giancarlo De Carlo and Urbino

The patterns of the city and of the landscape



the relationship between the city's texture and shape and morphology of the territory with agricultural patterns clearly visible.

What appeared to Giancarlo De Carlo, at that time in his thirties, was the image of a village in which the Palace dominated, in continuity with the landscape, a predominantly agricultural land.

The University of Urbino, ancient and prestigious for having been established in 1507, in the 50s counted about 3,150 students, a small number compared to the overall 300,000 that were enrolled in the Italian Universities, but had an invaluable artistic legacy:

the Ducal Palace, a wonderful historic centre rich of buildings and monuments of rare beauty, a territory that remained untouched since the times of Raffaello and Piero della Francesca, claiming to be discovered and valued.

Part1. Historical Background

Middle Ages: The deforestation began.

-The diversity of its shape comes from the geometric patterns brought by cultivation overlapping with the undulating terrain of Montefeltro.

19th Century: Small rural slums inhabited by impoverished tenants appeared.

Early 1960s: The city was at a turning point, first affecting the economy and society.

-The agriculture that has always supported the city and the land became unproductive, and the rural and stable rural social structure based on large manors and tenant systems began to lose population.

-The impact on the actual environment: The long-standing balance between the city and the land began to change, losing its economic and social structure.

1960-1970s: The college was considered a concrete manifestation of revolutionary ideology.

-As more people had the opportunity to receive higher education, it became an opportunity to raise public awareness and advocate for political and social radical changes.



View of the town and of the landscape from the south-east side.
(Alinari 1910-1920)

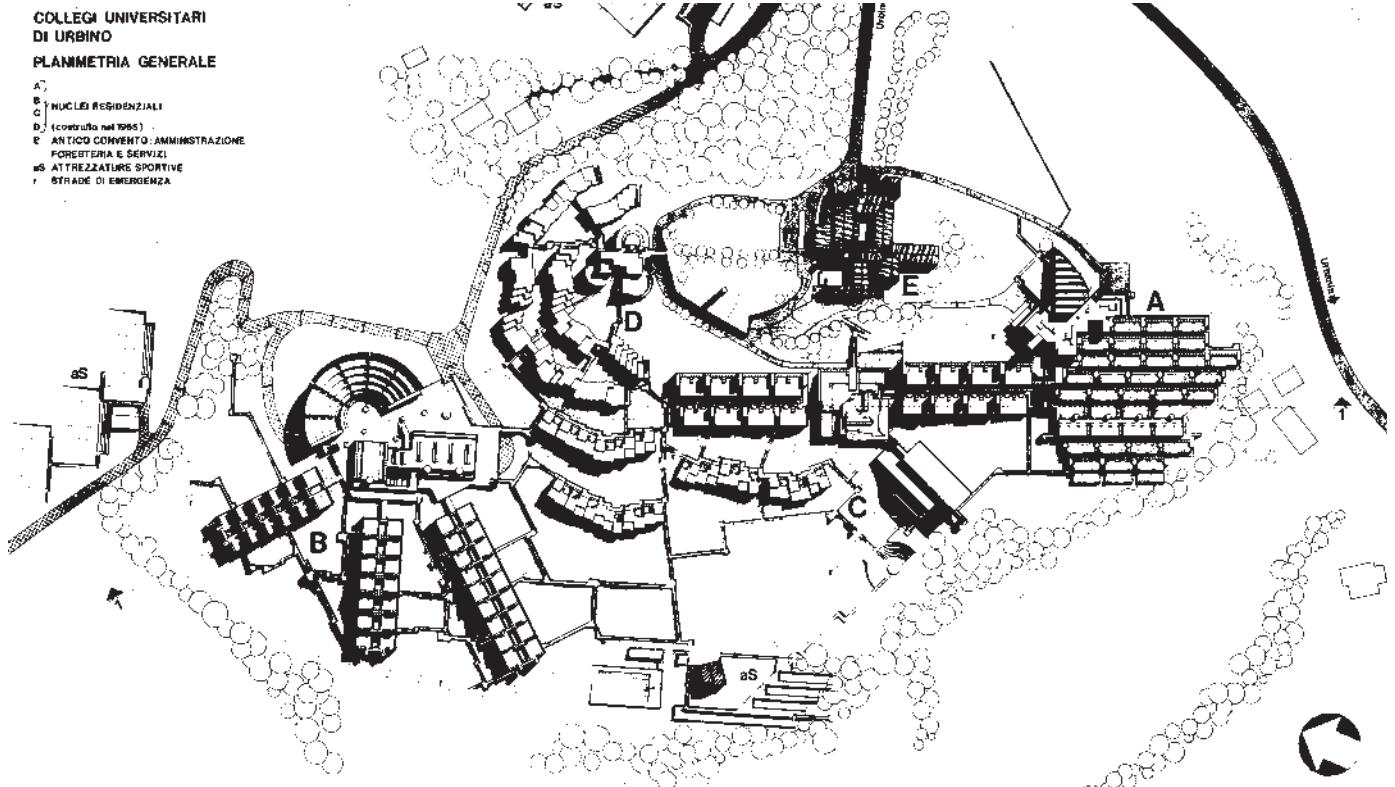


"Colle". Top view of the residential cells.
(Photo Kunstgewerbeschule, Zürich)

Part2. Relationship with the landscape

In the period before the construction of the "Collegi", Giancarlo De Carlo was simultaneously working on the Master Plan of the city and on the expansion plan of the University. The study of the city and the relationship with the territory became a crucial part of its research and the basis for the development of projects that followed.

The formal and historical value of this vegetal but anthropic context, the reciprocity between agricultural tissues and the historical city, the mix of geometric patterns and organic forms become a reference for the "Collegi" architectural composition and a reference point for the relationships of individual parts within the surrounding landscape.



The "Collegi" as a system

fig.1 The "Collegi" as a system
 "Colle" 1962-1965

A first block was built between 1962 and 1966 next to an ancient monastery, which should have been ren-ovated to host seminars and administrative functions. It includes 150 single rooms organised in 10 blocks on two levels, that fol-lows the topography of the site. Each room has private bathroom and is provided with "made to measure" furniture .

fig.2 "Tridente" 1973-1980

It is the largest construction and it is definitely the one where the emphasis on collectivism is stronger. The central building includes the public services and connects the 352 single rooms in three "branches".

fig.3 "Aquilone" 1973-1983

Located between Colle and Vela, the Aquilone com-plex is formed by a massive central building, four "branches" which contain the rooms and the library.

fig.4 "Vela" 1973-1981

The "Vela" complex so called from the characteristic shape of the theatre at the top of the eight levels that form the complex- includes 156 single and 33 double rooms and a building, connected by imposing tower-scales, which contains the common functions, namely a theatre, study and meeting spaces.

fig.5 "Serpentine" 1973-1981

The complex, comprises 152 single rooms divided into 3 blocks, each of which includes 6 or 7 "units", with 8 single rooms. The units develop on two levels, each with four single rooms.

III. . Giancarlo De Carlo and Urbino

The patterns of the city and of the landscape



城市的紋理形狀與領土形態之間的關係清晰可見，具有明顯的農業模式。

德卡羅 (De Carlo) 當時三十多歲，眼前浮現的是一個村莊的景象，其中皇宮在景觀中占主導地位，與主要是農業土地的連續性。烏爾比諾大學，因成立於1507年而古老而聞名，到了50年代約有3,150名學生，相較於意大利大學總共30萬名的註冊學生而言，這是一個較小的數字，但它擁有無價的藝術遺產：公爵宮殿，一個豐富建築和罕見美麗的歷史中心，一片自拉斐爾和皮耶羅·德拉·弗朗切斯卡時代以來保持原樣的領土，宣稱有待發現和評價。

第一部分：歷史背景

中世紀：開始進行森林伐木。

它的形狀多樣性來自種植所帶來的幾何圖案，與蒙特費爾特羅的起伏地形相重疊。

19世紀：貧窮的租戶居住的小農村出現。

1960年代初：城市正處於轉折點，首次影響經濟和社會。

長期支持城市和土地的農業變得無效，基於大莊園和租戶制度的農村穩定社會結構開始失去人口。

對實際環境的影響：城市和土地之間長期的平衡開始改變，失去了經濟和社會結構。

1960-1970年代：學院被視為革命意識形態的具體表現。

隨著更多人有機會接受高等教育，這成為提高公眾意識並倡導政治和社會根本變革的機會。



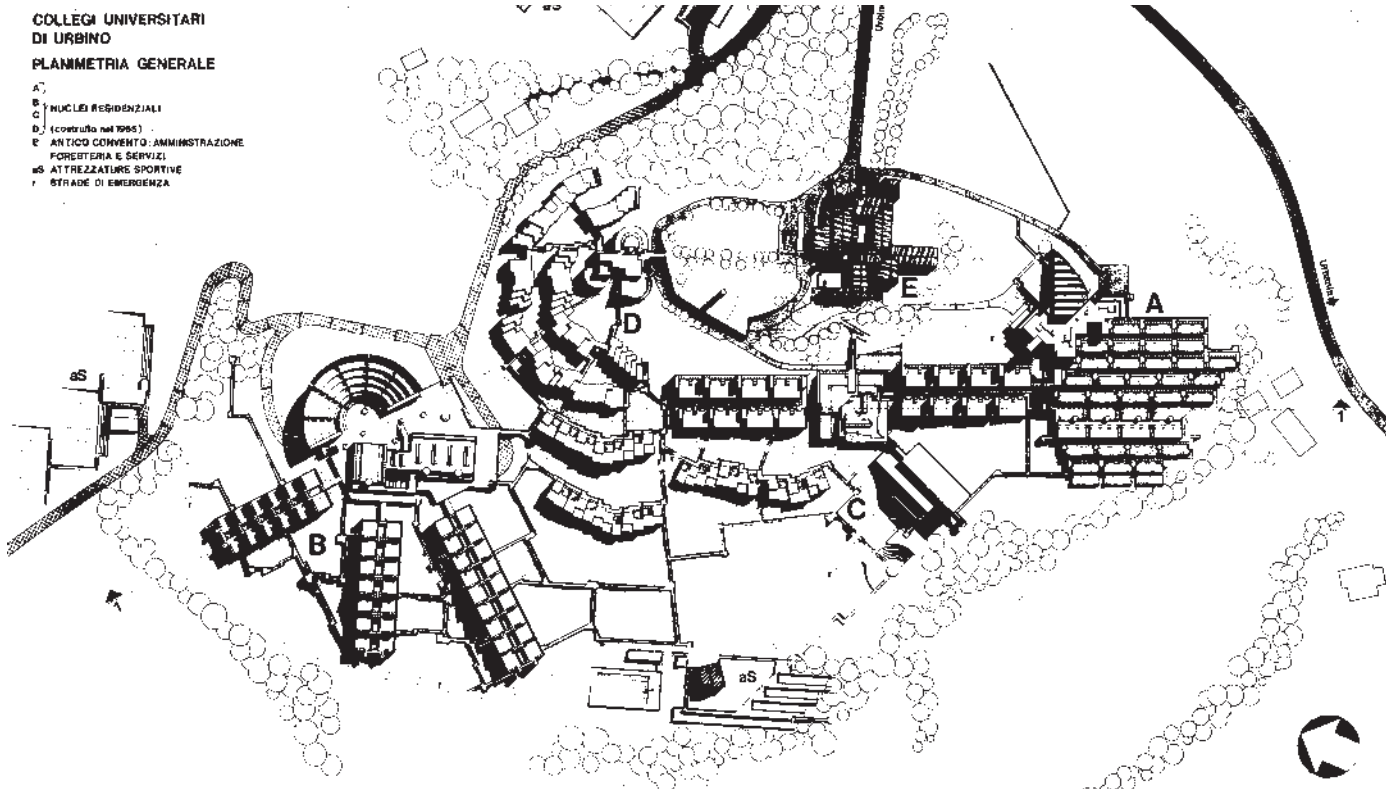
從東南側觀察城鎮和景觀。(Alinari 1910-1920)



"Colle" 住宅單元的俯視圖。
(Photo Kunstgewerbeschule, Zürigo)

第二部分：與景觀的關係

在建造"Collegi"之前的時期，德卡羅（De Carlo）同時致力於該城市的總體規劃和大學擴建計劃。對城市的研究和與領土的關係成為他研究的關鍵部分，也是隨後項目發展的基礎。這種植物但人為的背景的形式和歷史價值，農業組織與歷史城市之間的相互關係，幾何圖案和有機形式的混合成為"Collegi"建築結構的參考，也是周圍景觀中個別部分相互關係的參考點。



"Collegi" 作為一個系統

fig.1 "Colle" 1962-1965

第一個區塊在1962年至1966年間建成，毗鄰一座古老的修道院，原本應該翻新以容納研討會和行政功能。它包括150個單人房間，分佈在兩層的10個區塊中，沿著場地的地形而建。每個房間都配有私人浴室，並提供「度身定制」的家具。

fig.2 "Tridente" 1973-1980

這是最大的建築，絕對是強調集體主義的一個地方。中央建築包括公共服務並連接三個「分支」中的352個單人房間。

fig.3 "Aquilone" 1973-1983

位於Colle和Vela之間，Aquilone綜合體由一座巨大的中央建築和四個包含房間和圖書館的「分支」組成。

fig.4 "Vela" 1973-1981

"Vela"綜合體得名於形成該綜合體頂部的八層劇院的特殊形狀，包括156個單人房和33個雙人房，以及一座通過宏偉的塔樓樓梯相連的建築，其中包含常見的功能，即劇院研究和會議空間。

fig.5 "Serpentine" 1973-1981

這個綜合體包括152個單人房，分為3個區塊，每個區塊包括6或7個「單元」，每個單元有8個單人房。這些單元分佈在兩層，每層有四個單人房。

IV. Gathering information to inform policies

Maintenance program

Part1. Fair-faced concrete



The restoration "patch" designed by the original architect De Carlo was used in the extensive restoration of the "Tridente" building, using a two-layer commercial restoration system, and was clearly distinguished from the original structure

Repair Principle

- The repaired part must be distinguishable from the original surface
- Strengthen the structural strength without changing the appearance and size of the building structure
- Retain the original texture and texture of the building surface
- Prevention is better than replacement - perform hydrophobic treatment on the concrete slab of "colle"
- Repairs must ensure maximum durability
- Any maintenance measures need to be documented, with photos recording before and after the maintenance.



Due to the earthquake that hit central Italy in 2016, some columns used fiber composite materials to strengthen the structural strength.



More complex repairs use imitation methods to rebuild and repair; the surface of the fourth floor of the library in "Aquilone" is painted with wooden strips to imitate the texture of the original cement formwork



Policy

All floor slabs are identified on the floor plan by a "code" (e.g. in the example below the code refers to

Covered outdoor walkway of the "Colle" residence) in order to also describe the surface in the foreground that cannot be mapped due to the complex shape of the building; the last letter in the code refers to the location of the surface (interior, exterior, roof, ceiling...). Therefore, all surfaces are analyzed and described by linking some specific information to the code, such as material type (as described in the abacus), size and preservation state (defined by fractions). In the same plan, major erosion (exposed steel bars, spalling, etc.; red) and existing repairs (blue) are also indicated to emphasize more critical situations.

In order to document the state of conservation and facilitate consultation, a complete photographic record was implemented; for each part of the building a series of images was selected, organized and referenced to a "code". Profiles can be updated and downloaded from DWG archives: archives can therefore be uploaded to managed profiles, allowing continuous monitoring of the evolution of decay. Additionally, all data can be easily managed to quantify remediation actions and partial data can also be extracted.





Part2. Exposed brick surface

The preservation condition is relatively good, except for the cracks in the concrete caused by roof drainage in some areas, resulting in cracks, falling and weathering between the bricks of the concrete structure.



Decay of Windows frames

Part3. Window and door frames

Repair Principle

- Maintain the value of all parts of the building
- Consider different possibilities: restore the frame, replace it with a copy of the original frame type, or make a type change based on its current condition and use of space
- Prioritize accommodation functions to improve students' comfort
- Propose solutions that can be adopted immediately and are as compatible with existing resources as possible
- Respect original dimensions and movable systems
- Use double-layer paint to improve insulation properties
- Improve the efficiency of mechanical parts that are subject to severe wear;
- Carry out an economic assessment consistent with the building's characteristics and buyer's needs
- Ensure minimal maintenance



new window frame after replacement

After CMP investigation, it was found that most of all the windows had been replaced, and only a few of the windows were original. Due to the original wooden window frames, lack of maintenance and short eaves, the window frames and hinges were severely corroded. Most of the windows that have been replaced were replaced at different times, with different styles and manufacturers, so the facades are not on the same plane.

In the plan, each element is identified with an alphanumeric code, classified and associated with conservation status. The analysis thus provides a fairly precise quantification of the elements and their respective states of preservation. A score between 0 and 4 defines the saved state of each element.

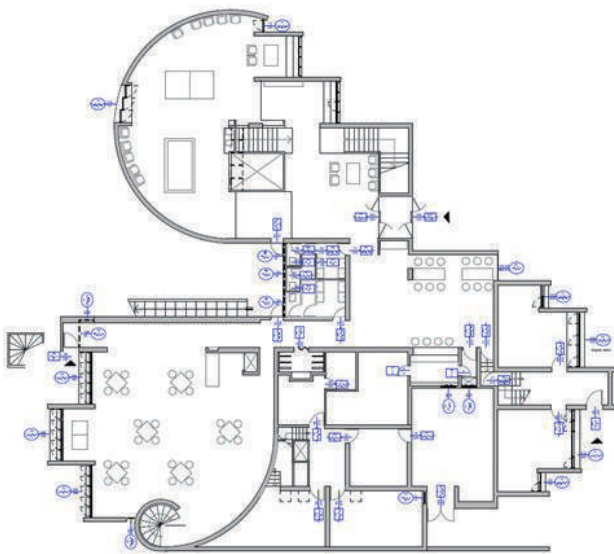
For each part of the building, there is a summary of the type and state of conservation of the windows and door frames.

Policy

- When the window frame erosion exceeds 30%, replace the original window with the same cross-section and single pane of glass. On-site repairs, including replacement parts if window frame erosion does not exceed 30%.
- Repair and upgrade damaged parts, including replacing parts when window frame erosion does not exceed 30%.
- Fixing the frame: Depending on the circumstances, cut the frame and replace any damaged base parts in contact with the sill or sill with a new double-height frame and add metal protection of the same color, retaining a single coat of paint.

Significance

- De Carlo's study focuses on designing customizable furniture catering to students' living habits.
- A 3D model based on the D6C room allows the research team to experiment with flexible furniture placement in architectural space.
- The introduction of a Geographic Information System (GIS) for furniture is complemented by its integration with the Conservation Digital Reporting (CDR) platform.
- GIS captures general furniture information (quantity, authenticity, materials), while CDR records detailed object descriptions, photos, preservation status, function, and application.
- The combined system enables real-time updates, empowering custodians to manage and update conservation statuses and complex managers to monitor overall conditions.
- The integrated approach provides a unique management system for both functional and conservation elements within the "Academy" space.



"Colle" service building. Identification the door and the window frames.

IV. Gathering information to inform policies

Maintenance program

第一部分：水泥外牆



原建築師德卡羅設計的修復“補丁”被應用於“Tridente”建築的全面修復中，採用了雙層商業修復系統，並且與原始結構清晰區分。

維修原則

- 修復的部分必須與原始表面有所區別
- 增強結構強度，不改變建築結構的外觀和大小
- 保留建築表面的原始紋理和質感
- 防患於未然 - 對“colle”混凝土板進行疏水處理
- 維修必須確保最大的耐用性
- 所有維護措施都需要有文件記錄，包括維護前後的照片。



由於2016年中義大利地震，一些柱子使用纖維複合材料來增強結構強度。



更複雜的修復使用模仿方法進行重建和修復；在“Aquilone”圖書館的第四層，使用木條塗裝表面以模仿原始混凝土模板的質感。



政策

所有樓板在平面圖上都以一個“代碼”（例如，在下面的示例中，代碼指的是“Colle”住宅的有蓋戶外走道）進行標識，以描述由於建築物複雜形狀而無法映射的前景表面；代碼的最後一個字母指的是表面的位置（室內、室外、屋頂、天花板等）。因此，所有表面都通過將一些特定信息與代碼關聯，如材料類型（如算盤中描述的）、尺寸和保存狀態（由分數定義），進行分析和描述。在同一平面圖上，還標示了主要的侵蝕（暴露的鋼筋、剝落等；紅色）和現有的修復（藍色），以強調更為嚴重的情況。

為了記錄保存狀態並便於查閱，實施了一個完整的攝影記錄；為建築的每個部分選擇、組織和參照了一系列圖片，並賦予一個“代碼”。

輪廓可以從DWG檔案中更新和下載：因此可以將檔案上傳到管理的檔案中，實現對腐爛演變的持續監控。

此外，所有數據都可以輕鬆管理，以量化修復措施，並且還可以提取部分數據。



第二部分：磚牆

保存狀態相對良好，除了一些區域因屋頂排水引起的混凝土開裂，導致混凝土結構的磚間裂縫、脫落和風化。



腐朽的窗戶框架



更換過的新窗框

第三部分：窗戶和門框

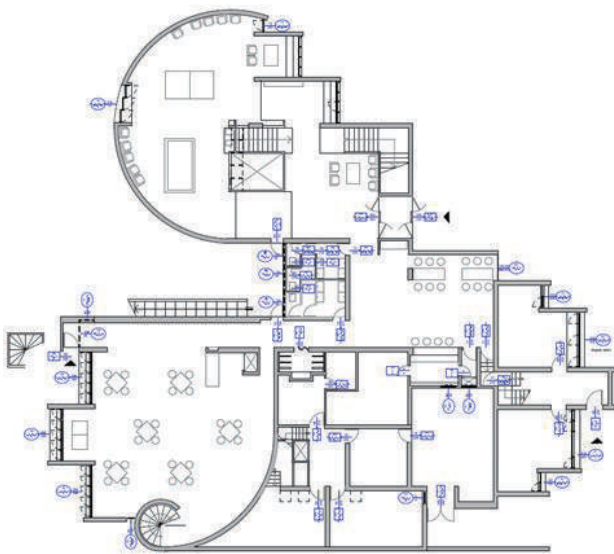
維修原則

- 保持建築所有部分的價值
- 考慮不同可能性：恢復框架、用原始框架類型的複製品替換它，或根據其當前狀況和空間使用進行類型更改
- 優先考慮住宿功能，以提高學生的舒適度
- 提出可立即採納且盡可能與現有資源相容的解決方案
- 尊重原始尺寸和可移動系統
- 使用雙層油漆以提高隔熱性能
- 改善嚴重磨損的機械部件的效能
- 進行符合建築特性和買方需求的經濟評估
- 確保最小的維護需求

經過CMP調查，發現大部分的窗戶都已經更換，僅有少數窗戶是原裝的。由於原始的木質窗框、缺乏維護和短的屋簷，窗框和鉸鏈嚴重腐蝕。大多數被更換的窗戶是在不同的時間進行更換的，樣式和製造商也各異，因此外觀並不在同一平面上。

在平面圖中，每個元素都用一個字母數字代碼標識，分類並與保存狀態相關聯。這樣的分析提供了對元素及其相應保存狀態相當精確的量化。分數介於0和4之間，定義了每個元素的保存狀態。

對於建築的每個部分，都有一個窗戶和門框的類型和保存狀態摘要。



"Colle" 建物中標註的門框和窗框

政策

- 當窗戶框架侵蝕超過30%時，使用相同橫截面和單層玻璃替換原始窗戶。現場維修，包括更換零件，如果窗戶框架的侵蝕未超過30%。
- 修復和升級損壞的部分，包括在窗戶框架侵蝕未超過30%的情況下更換零件。
- 修復框架：根據情況，修剪框架並更換與窗台或門檻接觸的任何損壞基部零件，使用新的雙層框架並添加相同顏色的金屬保護，保留單層油漆。

意義

- 德卡羅的研究專注於設計可定制的家具，滿足學生的生活習慣。
- 基於D6C房間的3D模型使研究團隊能夠在建築空間中進行靈活的家具布置實驗。
- 引入地理信息系統 (GIS) 用於家具的管理，並通過與保護數字報告 (CDR) 平台的集成予以補充。
- GIS捕捉一般家具信息 (數量，真實性，材料)，而CDR記錄詳細的物體描述，照片，保存狀態，功能和應用。
- 綜合系統實現實時更新，使管理者能夠管理和更新保存狀態，並使複雜的管理者監控整體條件。
- 綜合方法為"Academy"空間內的功能和保存元素提供了獨特的管理系統。

V."Keeping it Modern" Grant

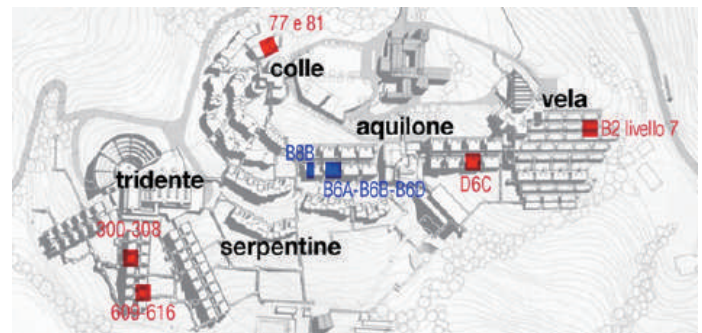
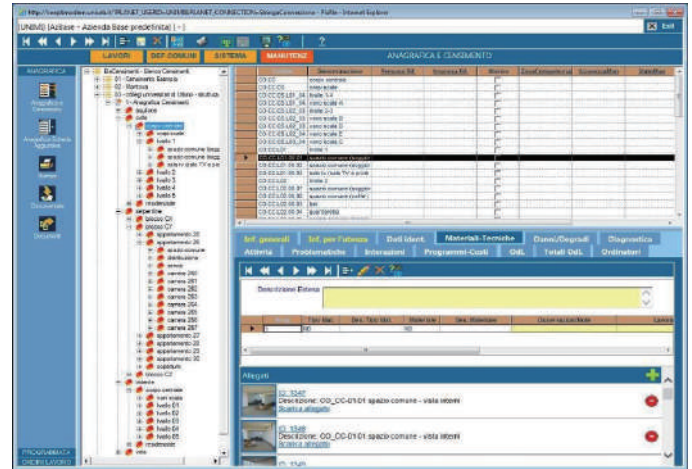
Part1. Towards a preventive approach

The information system developed for the "Keeping It Modern" project is a web-based tool that supports the management of a large amount of data and enables different stakeholders to share their data and programs. It allows professionals in charge of maintenance to easily identify emergencies and plan everyday activities. The database is dynamic and can be updated over time to ensure maximum effectiveness to the conservation strategy.

- Provides guidelines for conservation and transformation of buildings.
- The research conducted by CECH includes an in-depth analysis of rooms, energy retrofit proposals, and a pilot site test. The data collected was used to design an appropriate strategy for improving energy efficiency.
- Continuous monitoring of indoor and outdoor climatic conditions helped assess the current hygrothermal comfort conditions. The assessment of the energy retrofit proposals through a building-HVAC model showed promising results.

Policy

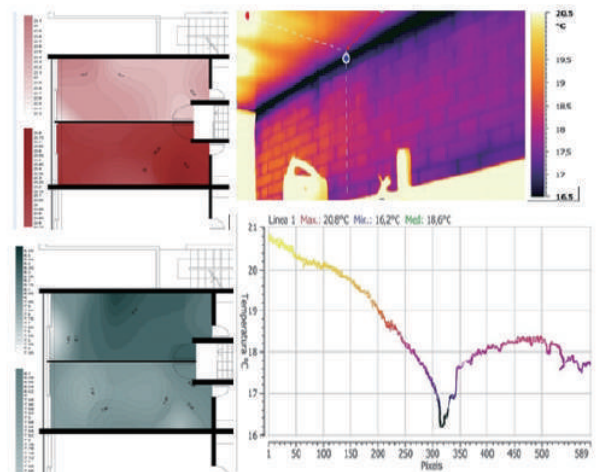
- The authors monitored surface temperatures, indoor air temperature, and humidity for one year.
- The campaign of measurements consisted of a continuous monitoring of indoor and outdoor climatic conditions through data-loggers and seasonal thermographic and psychrometric mapping.
- The data collected fed a building-HVAC model, which was used to design an appropriate strategy for retro-fitting and improving the energy efficiency of the complex.
- The continuous monitoring helped assess both the current hygrothermal comfort conditions and the performances of the building envelope in different seasonal conditions.



The map in Figure 1 shows the residential cells which were seasonally analyzed (red) and the residential cells which were continuously monitored via temperature and relative humidity sensors (blue).



Each part of the complex (blocks, rooms, com-mon spaces, internal and external paths, external spaces) has been identified through an alphanumeric code, reported on plans, which contains also the dimensions and the use of each room. For each room, it will therefore possible to insert the data on the state of conservation, to keep track of the maintenance works realised and of the costs and to control the use and the specific issues of each space.



Distribution of temperature (top left) and specific humidity (bot-tom left) in B6b room (top) and B6a (bottom) of the building "Aquilone" – 31/11/2015. Thermal image of B6b room with the thermal bridge between the wall and the roof - 01/12/2015 (right).

Part2. Towards a sustainable transformation

The social analysis carried out highlights the pros and cons of this building complex, that should be taken into consideration in planning a conservation that does not turn the "Collegi" into a museum.

The social research project delves into the intricate dynamics of the "Collegi" in Urbino, emphasizing its unique role in shaping individuals' behaviors and life experiences. The analysis underscores both the strengths and weaknesses of this architectural complex, advocating for a conservation approach that balances cultural preservation with adaptations to meet current user needs.

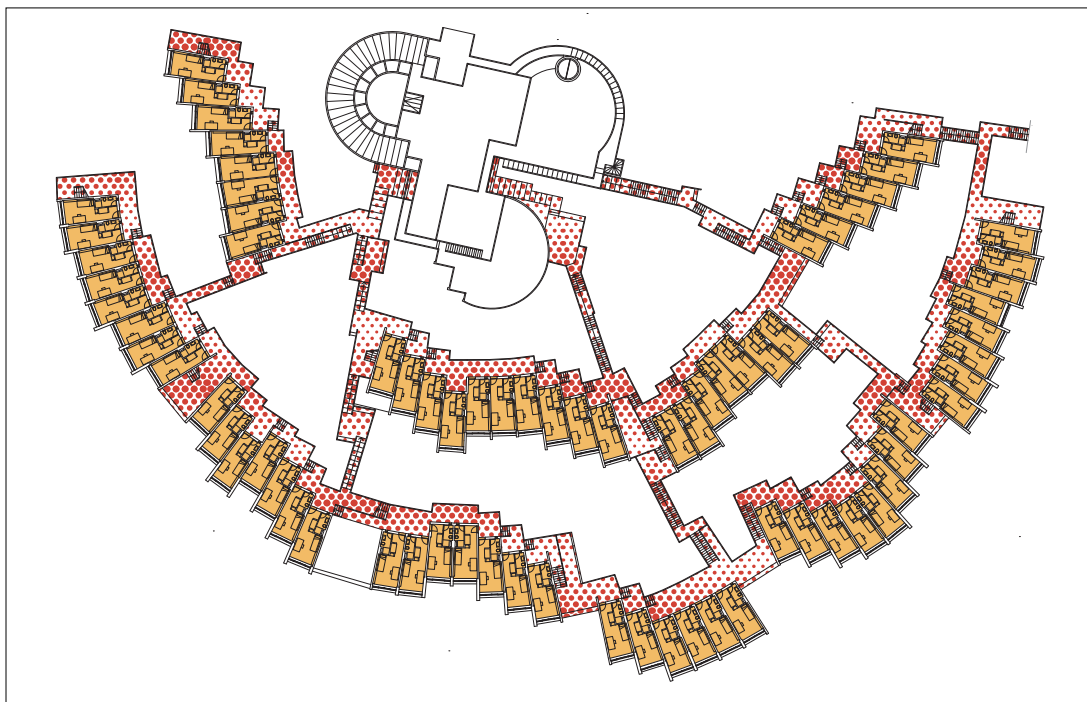
The study reveals a nuanced perspective on the evolving uses and satisfaction levels of the "Collegi," highlighting the challenges of maintaining a delicate equilibrium between social interactions and changing societal preferences. The necessity for structural, organizational, and social renewal is emphasized to prevent obsolescence and address contemporary demands.

Gender-specific variations in how spaces are perceived and utilized within the "Collegi."

- Male students tend to engage more in common spaces, reflecting a connection to the public sphere, while female students seek refuge in private dimensions within blocks and rooms.
- The study stresses the importance of understanding the diverse residential preferences across different residence halls. It proposes adapting spaces to contemporary needs while respecting the original design's modularity and customization possibilities.

Delves into the broader context of the "Collegi" within the university city of Urbino, pointing out the need for increased cultural and leisure spaces.

It advocates for student involvement in organizing activities and calls for investments in common spaces to foster sociability, aligning with the visionary architectural principles of Giancarlo De Carlo.



The classification of spaces considers the features already listed and determines the level of transformability. It goes from the red to the Clear yellow (spaces that have already undergone severe tampering and can be further modified).

LEVELS OF TRANSFORMATION

Indoor Outdoor



Non transformable
Spatial Spaces featuring parts of particular value for their implementation that have not been tampered with and are vital to the quality of life of students within the Complex.



Transformable according to a logic that establishes new consistencies in the interest of increasing use
Representative spatially recognized space spaces, which have not undergone transformations but need adjustments to be carefully studied.



Transformable
Spatial representations of recognized spatial value, which have undergone transformations or that no longer correspond to the current use in which transformations are accepted.

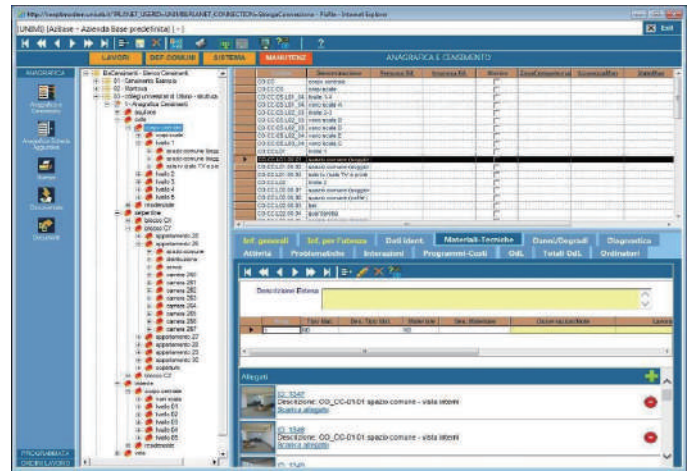


To be transformed
Spaces of great value too, which have undergone improper transformations, or who have never reached a condition of reasonable or even encouraged use of transformation.

V."Keeping it Modern" Grant

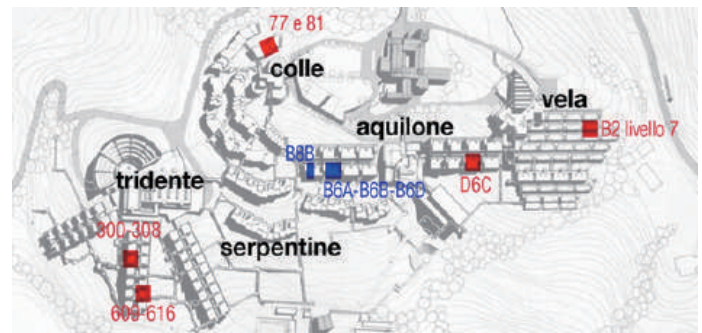
第一部分：走向預防性方法“Keeping It Modern”

“Keeping It Modern” 項目開發的資訊系統是一個基於網路的工具，提供建築保存和改造的指南，同時支援大量數據的管理，使不同利害關係者能夠共享其數據和程式。由於數據庫是動態的並可隨時間更新，因此它讓負責維護的專業人員能夠輕鬆識別緊急情況並規劃日常活動。



方法

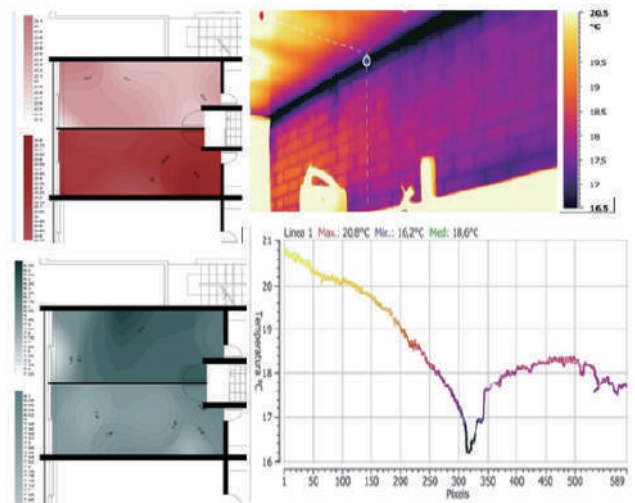
- 研究者們監測了一年內表面溫度、室內空氣溫度和濕度。
- 測量活動包括透過數據記錄儀對室內外氣候條件進行持續監測，以及季節性熱成像和濕度計圖的進行。
- 以收集的數據建立了一個建築暖通空調（HVAC）模型，該模型用於對複雜建築的設計進行改建和提供適當的提高能效的策略。
- 持續監測有助於評估當前的熱濕舒適條件和建築外部在不同季節條件下的性能。



地圖顯示了季節性分析的住宅單元（紅色）和通過溫度及相對濕度感應器連續監測的住宅單元（藍色）。



該綜合體的每個部分（區塊、房間、共用空間、內部和外部通道、外部空間）都已通過一個字母數字代碼在平面圖上進行標識，其中還包括每個房間的尺寸和用途。對於每個房間，因此可以輸入有關保存狀態的數據，以追蹤實現的維護工程和成本，並控制每個空間的使用和特定問題。



溫度分佈（左上）和B6b房間（上方）和B6a（下方）的“Aquilone”建築中的特定濕度分佈（左下）- 2015年11月31日。B6b房間的熱影像，顯示牆壁和屋頂之間的熱橋 - 2015年12月1日（右）。

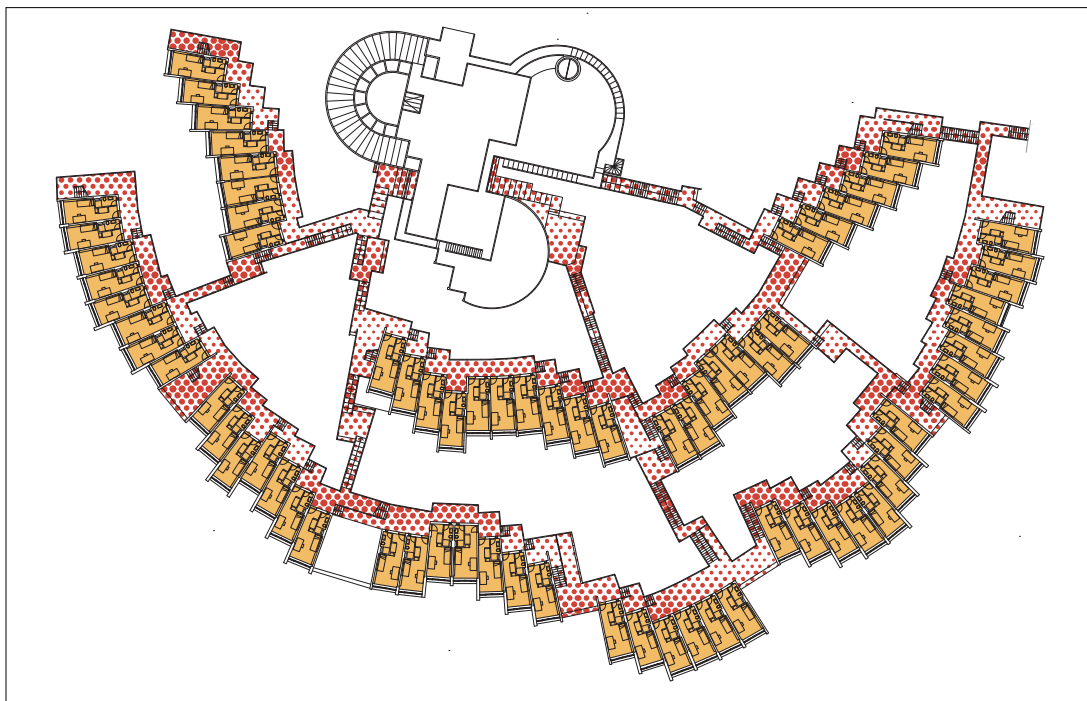
第二部分：走向可持續轉型

“「Keeping It Mordern」所進行的社會分析突顯了這座建築群的優勢和劣勢，在規劃保存時應考慮這一點，以免將"Collegi"變成一座博物館。”

這個項目探討了烏爾比諾的"Collegi"的複雜動態，強調了其在塑造行為方面的作用。它主張在適應當前需求的同時保留其文化意義。此研究顯示保存過程在平衡社會互動和變化的喜好方面存在挑戰，強調了結構更新的必要性。

而不同性別使用的特定模式值得注意：男性更喜歡共享空間，與公共領域連接。女性在公寓和房間內尋求隱私。









為強調理解不同住宅偏好的重要性，建議在滿足當前需求的同時保持原始設計的靈活性。該項目還涉及烏爾比諾的廣泛背景，呼籲增加文化空間和學生對活動的參與度，以符合建築原則。



空間的分類考慮到已經列出的特徵，並確定了可變性的程度。它從紅色到明黃色（已經受到嚴重破壞並且可以進一步修改的空間）。

改造程度的級別

Indoor Outdoor

-   Non transformable
Spatial Spaces featuring parts of particular value for their implementation that have not been tampered with and are vital to the quality of life of students within the Complex.
-   Transformable according to a logic that establishes new consistencies in the interest of increasing use
Representative spatially recognized space spaces, which have not undergone transformations but need adjustments to be carefully studied.
-   Transformable
Spatial representations of recognized spatial value, which have undergone transformations or that no longer correspond to the current use in which transformations are accepted.
-   To be transformed
Spaces of great value too, which have undergone improper transformations, or who have never reached a condition of reasonable or even encouraged use of transformation.