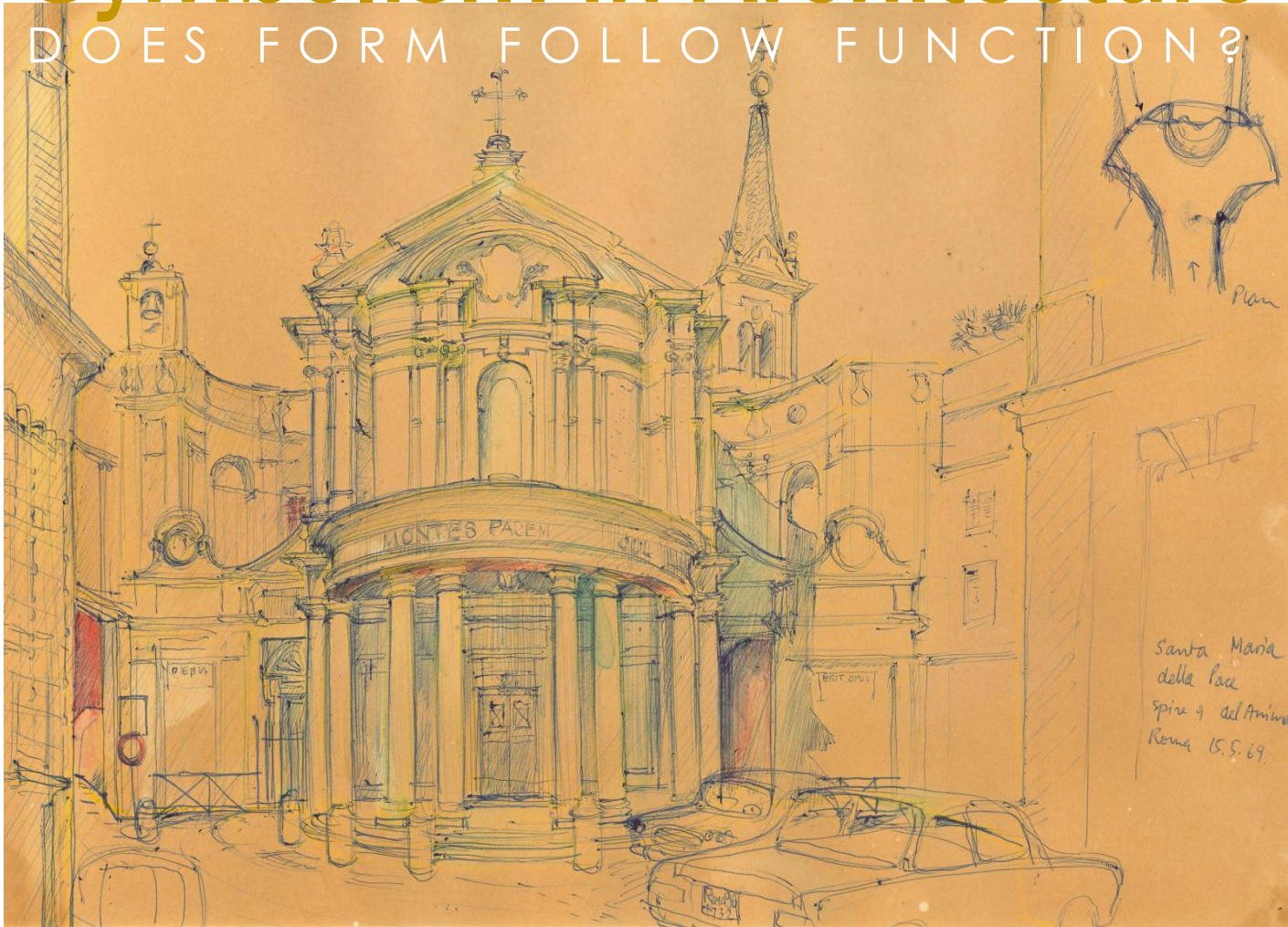


# Symbolism in Architecture

DOES FORM FOLLOW FUNCTION?



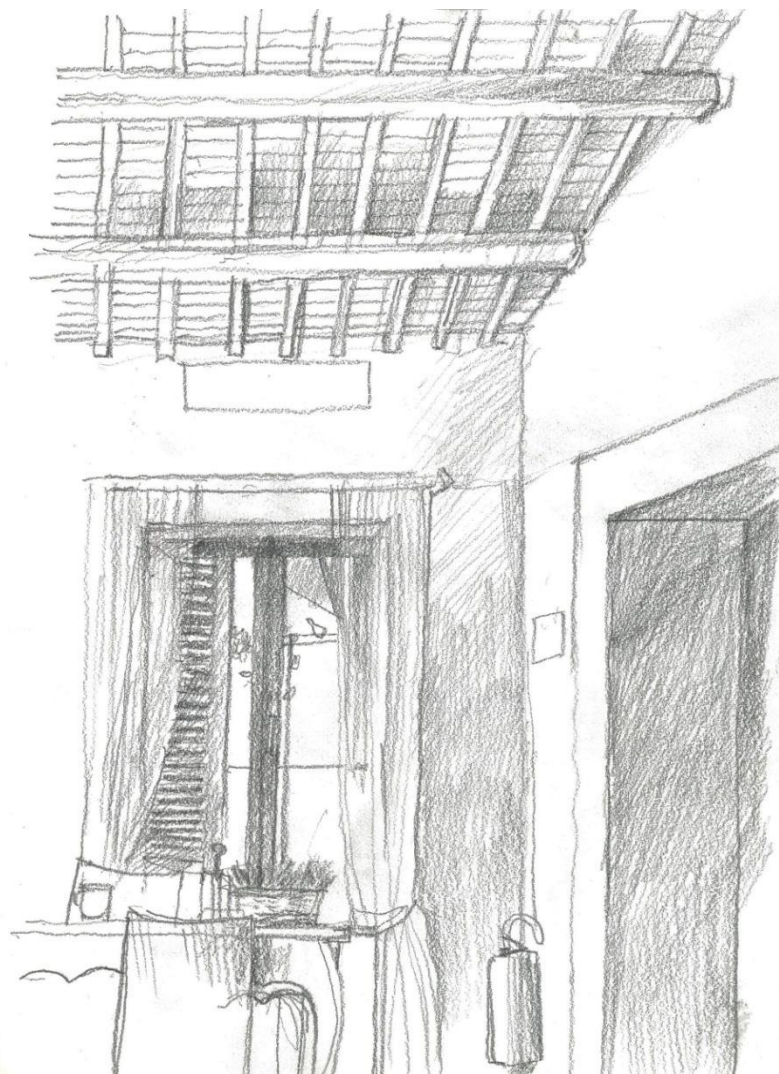
SANTA MARIA DELLA PACE ROME  
Sketch Julius Bokor 1969

# INTRODUCTION

When I was in my twenties, I spent a year living and working in Rome. I was young and impressionable, and the city and its buildings, had a huge impact on me and on my thinking during my future career as an architect. I did a lot of drawings at the time, especially of the scenes and built form that had the most impact on me. The buildings that I remembered and referred to over the years in my own work.

Recently I returned there and spent a fortnight wandering around the city and contemplating the inspiration for those buildings and the changes that have taken place in design over the centuries since Rome was the richest and finest city in the world. I was lucky enough to discover, that my favourite building of 50 years ago, Bramante's Santa Maria della Pace, now offered a rental apartment in the cloisters. This had been seamlessly inserted into the roof of the building, accessed by 100 steps from the street. So, for two weeks I slept beneath the bell tower and listened to the pigeons cooing and the cats wandering around the roof every night. Each day I wondered at the Rafael frescos on the church wall seen through the window from the cloisters as I walked up and down the stairs. I compared the drawings I had done as a young man with the modern-day scene and found that little had changed. A café had been created at the first level of the cloister and a gallery in the remaining area. All coexisting happily with the beautiful chapel.

A trip back to Rome, of course, directs the mind to the contemplation of the changes that have taken place in architecture over the centuries and the social situations that gave rise to them.



APARTMENT SANTA MARIA DELLA PACE CLOISTERS ROME  
Sketch Julius Bokor 2019



The “modern movement” gained currency and acceptance after the experiences of the first world war. The old order, represented by over decorated buildings and interiors, indiscriminate use of decoration and historical elements was discarded after that carnage.

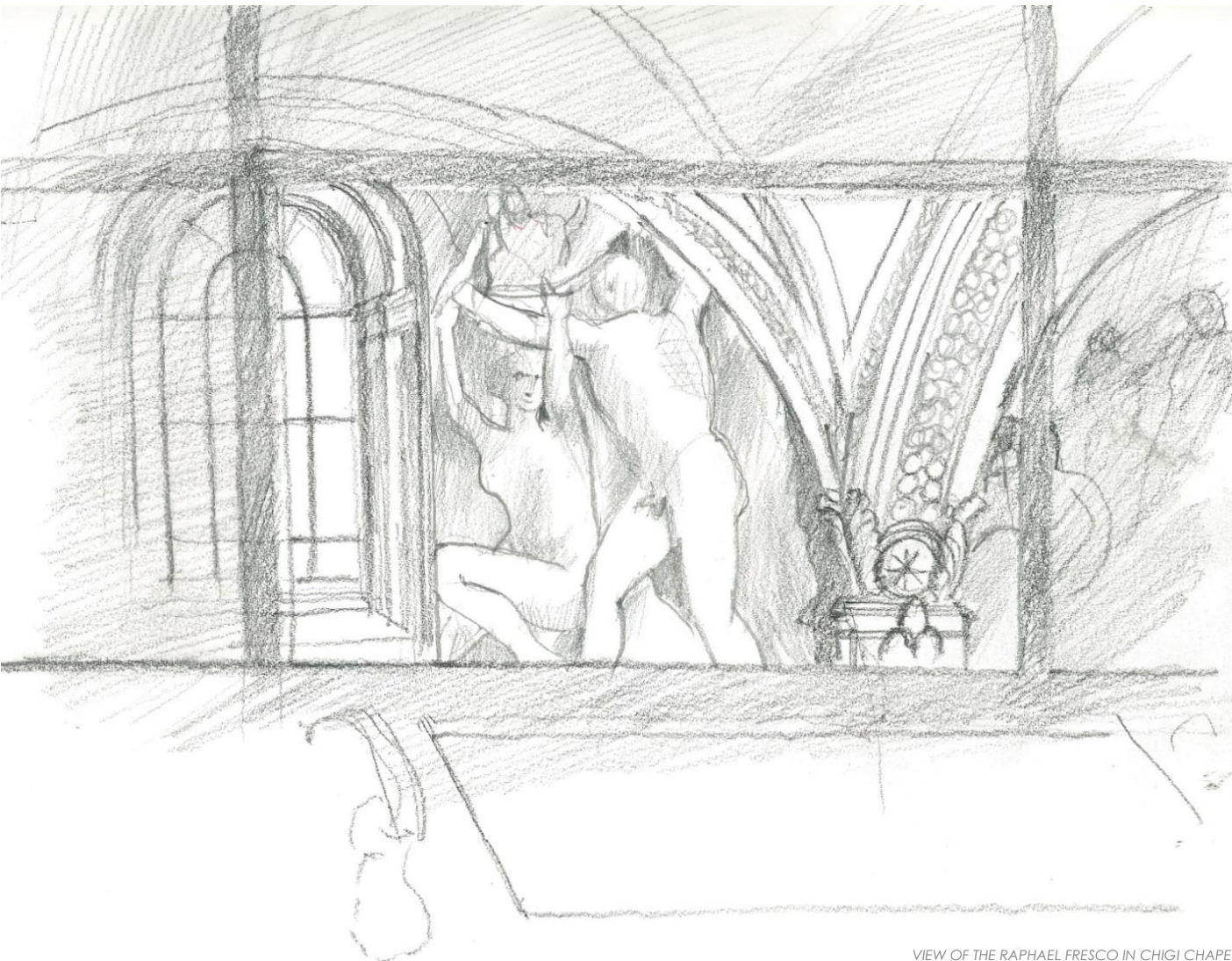
A new, better, world was needed and this would be characterised by economical, healthy, buildings and towns. The availability of motor transport enabled the expansion of cities and an educated avant garde class commissioned factories and individual villas from the rising band of modernist architects who had survived the war in Europe and the USA. Industrialisation, the invention of lifts and air conditioning, changes in construction techniques and new building types all fed into this new architectural style. Admiration for automobiles, ocean liners and industrial products was reflected in the aesthetics of the buildings. A universal modern style evolved as a complete break from the past. The mantra for this movement was that “form follows function”. I had always had doubts about this and these had started during my first trip to Rome all those years ago.

My return trip to Rome confirmed these and I realised that form does not always follow function in architecture. Each successive culture looks backwards for inspiration and to confirm their cultural correctness. This is seen in Rome where they looked to the Greeks to validate their architectural and cultural values. From then on architectural styles have been related more to social factors and movements than the actual function of each individual building.

My thoughts on these issues follow, together with some drawings done during my time in Rome.



THE CLOISTERS SANTA MARIA DELLA PACE ROME  
Sketch Julius Bokor 2019



VIEW OF THE RAPHAEL FRESCO IN CHIGI CHAPEL  
SANTA MARIA DEL LA PACE FROM WINDOW IN CLOISTERS.  
Sketch Julius Bokor 2019

# DESIGN IN ANCIENT ROME

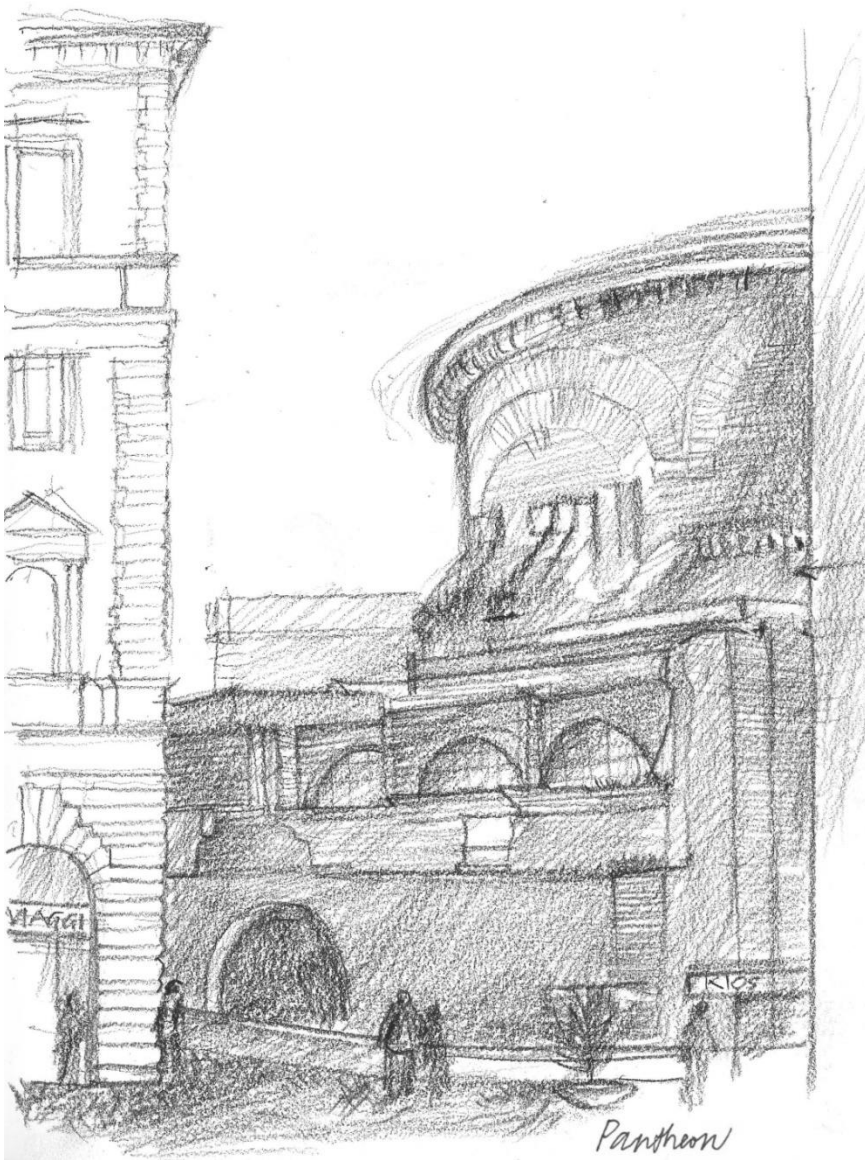


The origins of columns and their use in Greek buildings is thought to be an interpretation of timber buildings. It is difficult to imagine how a forest poor country would develop this style. Temples were for the worship of individual gods whose statue was housed in the central room. The colonnade had, as far as we know, no functional role. There was, as yet, no large roofed structures and generally domestic and palatial buildings were masonry and inward looking.

The face of the town was in the public open spaces, rather than streets, or formed by blank walls of anonymous looking residential. Public buildings, markets, theatres, baths and shopping areas formed the heart of the city. Some of the towns were walled.

OSTIA ANTICA WAREHOUSE BUILDING WITH APPLIED GREEK MOTIFS  
Sketch Julius Bokor 2019





The Romans needed larger spaces and structures with wider spans so they employed totally different construction techniques to previous civilisations.

One of those techniques was the use of bricks for formwork. The Romans engaged in large scale brickmaking with different shaped bricks and the use of portable kilns. My theory is that bricks were thin to facilitate drying and fixing. They discovered a primitive form of cement (pozzolana) which was a hydrated lime, cement and volcanic ash from Pozzuoli near Naples. They used brickworks as form work to pour concrete in and then the structures were clad in more precious materials. A good example of this is the Pantheon, the most intact roman structure (45metres in both height and width) built by Hadrian in 105CE used bricks to create formwork for the 6 metre thick walls required to support the dome.

It was then clad in bronze and other materials (such as Egyptian granite) which were used to represent various parts of the empire. Cannibalised for its external cladding, it has none the less survived as a church to Christian martyrs and now it is the burial place of 2 recent kings of Italy as well.

THE PANTHEON IN ROME SHOWING THE SOPHISTICATED STRUCTURAL  
USE OF BRICKWORK.  
Sketch Julius Bokor 2019

# GOTHIC ARCHITECTURE

My lecturers at Sydney University in the 1960's referred to Gothic Architecture as the closest to modern buildings because they were modular, prefabricated and with large glazed areas.

The style was apparently invented in 1100 by Abbott Suger, who rebuilt part of St Denis Cathedral outside Paris in the Gothic style. The lack of stone in the north of Europe encouraged the building of large brick cathedrals, such as the Lubeck Cathedral in Germany. The cost of these structures was so great that most were constructed over centuries. Chartes Cathedral was the only one that was built, without interruption, using funds from the town.

There are large variations in details in the design, even within the one building, including the design of the bell towers and spires. Travelling troops of masterbuilders and their assistants travelled all over Northern Europe from one construction site to another, moving between them as the finances ran out.



# RENAISSANCE ARCHITECTURE

My real interest is in the Renaissance and how they used elements of previous styles.

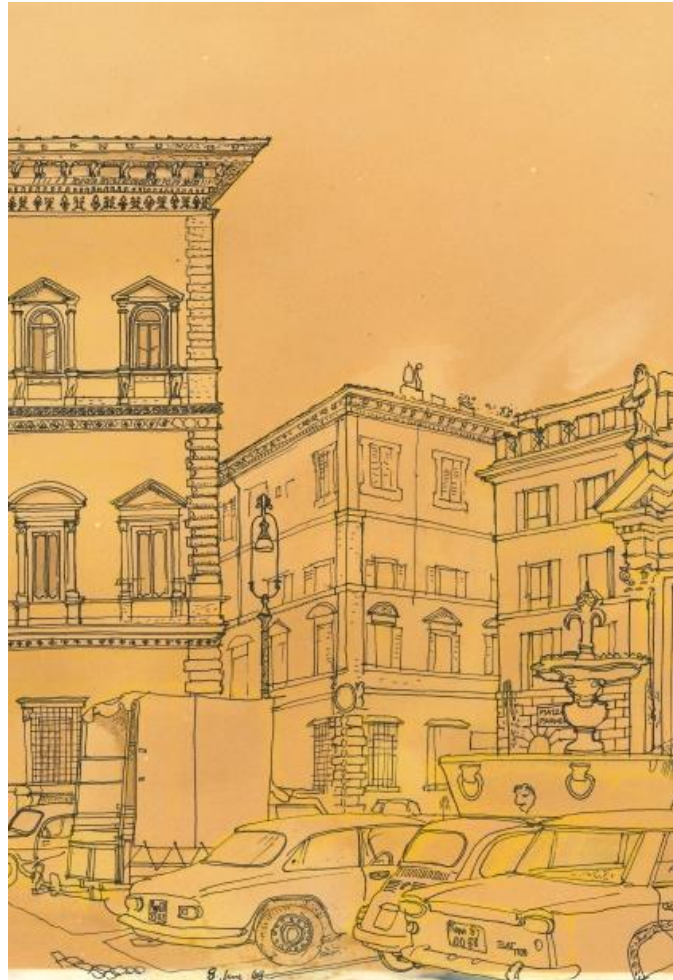
In 1400CE, Vitruvius' books were rediscovered, translated and published reaching a new audience. Information about fortification, town planning, project management, design and appropriate use of architectural orders were available to renaissance architects.

The Renaissance began in the City State regions of Italy which were controlled by leading families. These families, their offices and their servants lived in large, semi-fortified buildings. Just as the Romans invented building types to suit their requirements, these families also invented new building types to suit their lifestyles.

Construction in the Renaissance was based on Romanesque structural walls in a mixture of available stone and brick. The use of columns, and Greek/Roman pediments are used as decoration applied to the façade and to loggias and porticos. These were not integral to the structure but were an expression of their admiration for a past civilisation. With these new construction methods, a whole new design vocabulary was invented.

There was a need to roof large spaces which required vaulting and this determined the aesthetic. For the construction of the Cloisters of Bramante (built in 1508) all spans, apart from the roof, are vaulted. This creates a homogenous structure where there is little differentiation between walls and roof. The roof for smaller spans were in timber and tiles as they required lesser loads.

Where walls do not form the structure, construction elements were taken out and loggias were created – open corridors and courtyards within a building.



FARNESE PALACE, THE LARGEST PRIVATE PALACE IN ROME  
COMPLETED BY MICHELANGELO  
Sketch Julius Bokor 1969





Piazza del Quirinale charging of quad 24.5.69.

QUIRINALE PALACE, EXAMPLE OF RENAISSANCE TOWN PLANNING  
Sketch Julius Bokor 1969



FAÇADE OF SANTA MARIA DELLA PACE BY PIETRO DA CORSONA SUPERIMPOSED ON  
EARLIER CHURCH BY BRAMANTE WITH 1504 CLOISTERS  
Sketch by Julius Bokor 2019

These new construction techniques documented by Roman architect Vitruvius, (15BC) who presented his 10 books on architecture to Augustus Caesar, the greatest builder only eclipsed by Hadrian. His books also talk about practical aspects of construction such as siting buildings, ventilation and water supply. He also talks about appropriate use of columns for various building typologies.



COURTYARD OF THE CHURCH OF SAN CLEMENTE. THERE ARE 4 LEVELS OF PREVIOUS  
DOMESTIC AND RELIGIOUS USE ON THE SITE.  
Sketch by Julius Bokor 2019

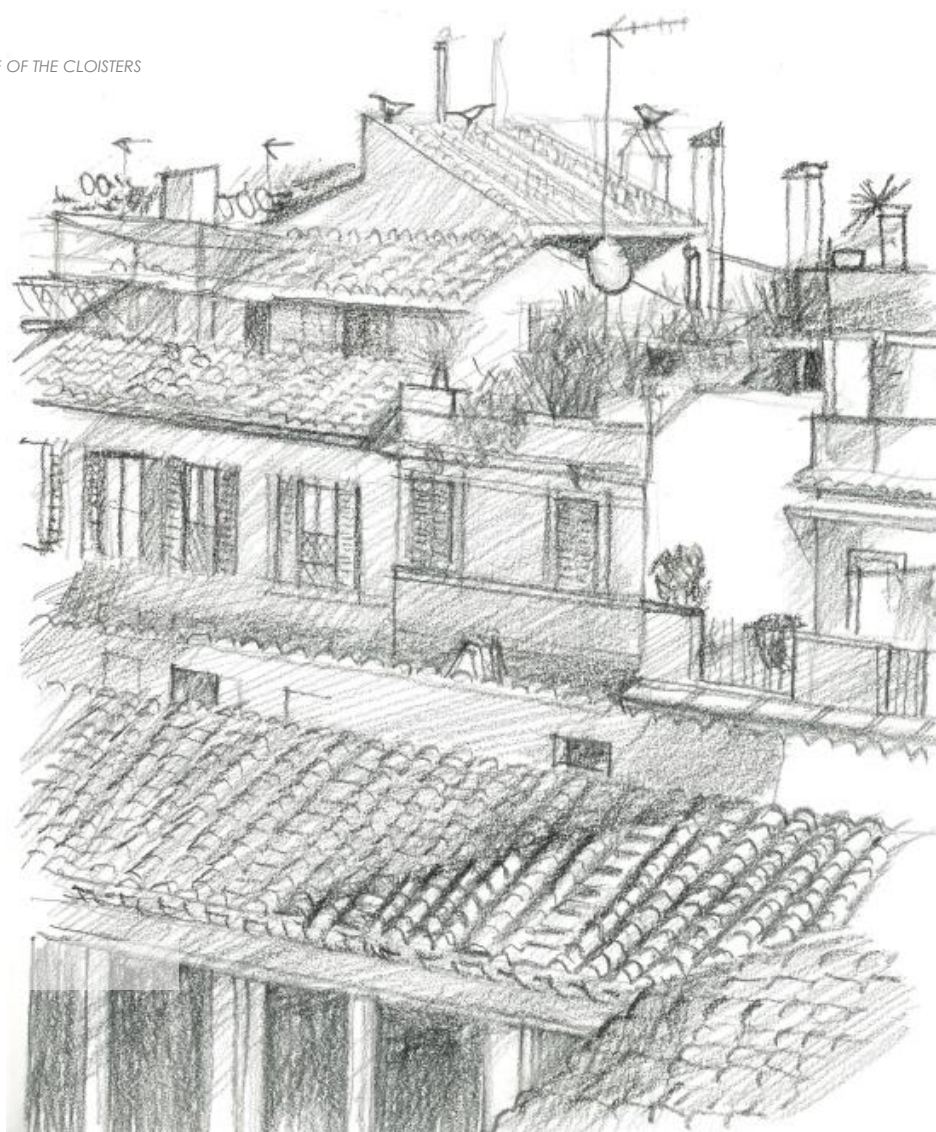
wood. San Clemente



SKETCHES OF SANTA MARIA DELLA PACE SHOWING THE ROOF OF THE CLOISTERS  
Sketches by Julius Bokor 2019



THE CAMPANE DI BRAMA.  
Sketch Julius Bokor 2019





Tanks for CATCHA 22 5.6.69 Piazza NAVONA

PIAZZA NAVONNA SKETCH.  
THE SHAPE OF THIS FAMOUS SQUARE REFLECTS THE STADIUM OF DOMITIAN CHURCH OF ST AGNES'  
UNDULATING FAÇADE BY BORROMINI AND INCLUDES THE FAMOUS BERNINI FOUNTAINS  
Sketch by Julius Bokor 2019



# THE 19<sup>TH</sup> CENTURY

This attitude continued throughout the 16th, 17th, 18th and 19th centuries as building uses changed. Elements were added and removed to dress a building. The Gothic revival of the 19<sup>th</sup> century reflected a need to rediscover purity in structures, as well as rediscover spirituality.

The requirements of industrial buildings for factories, power generation exhibition spaces meant larger spans were required as more open space was needed.



19<sup>TH</sup> CENTURY MILAN APARTMENT BLOCK STILL USING BORROWED ELEMENTS TO VALIDATE CULTURAL VALUES.

Framed structures were developed using a combination of expensive fabricated steel, brick vaults with brick/stone external walls. The rediscovery of cement and reinforced concrete was a milestone that enabled large, fire rated, multi storeyed to be built from the late 19<sup>th</sup> Century.

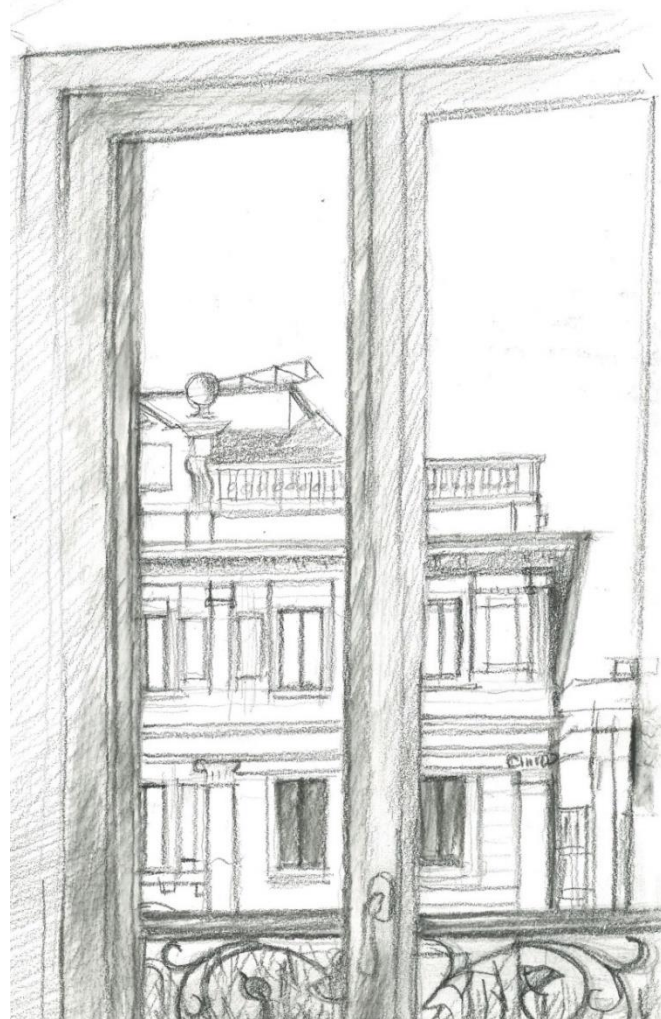
The walls were no longer structural, and this no longer presented the opportunity for sycophantic application of symbols of learning and education.

It was in industrial buildings that "modern" architecture was born. Hence the expression "form follows function". No longer were important buildings like palaces seen from open space in front. Buildings could be seen from the side and back as well.

The mass production of decorative elements and their indiscriminate use was a departure from the use of classical elements as "dressing" to illustrate admiration for ancient models lessened its impact, especially in 19<sup>th</sup>C.

In a lot of ways, the development and planning of cities contributed to "style". The anonymous Roman streets that led to public open space and civic buildings gave way to avenues. Augmentation of natural fortification, gates, and narrow streets due to lack of space within the walls. There was little opportunity to apply decoration except to doorways and to courtyards.

Palaces of the powerful were to be seen in open spaces and impress with their size, power and decoration. The use of courtyards, spaces for unloading of goods, vehicular access for ground floor storage offices etc changed the dynamics of the built form. These buildings were a variation on Roman palaces but they were more self-contained as less space was available in walled cities. Roman apartment buildings generally faced the street, with light wells of varying sizes and a network of smaller pedestrian alleys. The Roman towns had main arterial



19<sup>th</sup> CENTURY MILAN BUILDINGS ADOPTED DECORATIVE ELEMENTS  
FROM PRECEDING CIVILISATIONS  
Sketch Julius Bokor 2019



streets, utilitarian, military inspiration. Faced with the challenge of inventing a new skin for framed buildings, steel and glass was a natural choice as they were modern materials. Multi storey buildings for general use, only became possible with Otis's invention of passenger elevators and sealed buildings with large floor plates by Carrier's invention of air conditioning, efficient lights. These happened at the turn of the 19thC

So it was the development of new building types, public housing, industry, sports facilities that stood in open space. The Domino house of Le Corbusier enabled buildings to become sculptures. He discovered the freedom of sculptural expression free from the need for structural walls.

Buildings are a complicated amalgam of factors such as utility, availability of building materials, skilled labour, climate so the definition of function is wider. Regional architecture rather than "International Style" is how we interpret it today.

Well into the 19C the study of Roman Architecture and its elements spurred by the excavations at Pompeii and Herculaneum was an essential part of architectural education. To this end civilised nations established academies in Rome. The French (in 1600's Louis XIV) and USA (in 19thC) still send recipients of the Prix de Rome to their respective academies. Recipients were required to produce measured drawings, often coloured, of ancient buildings which were exhibited. Apart from architecture includes painting, sculpture. The designer of the Paris opera "Garnier" was one of these. Napoleon transferred the Academy to Villa Medici.

Interestingly Robert Venturi was a recipient of the 1954 prize and stayed in Rome for 2 years. I believe it was the primary influence for "Complexity and Contradictions in Architecture" a seminal writing that triggered post

modernism. This was a largely unsuccessful movement based on academic, somewhat inappropriate use of classical forms that involved reinterpreting at a small scale simplified classical elements. It however freed up designs to appreciate and design of buildings as sculpture moving further and further away from the connection between form and function.

Disney Hall, in Los Angeles, is at its heart a conventional multi-purpose hall gift wrapped in titanium. Similarly the Beijing stadium of Herzog and de Meuron is a well designed conventional stadium wrapped in iconic forms.

Form did not follow function.



INTERIOR MILAN APARTMENT  
Sketch Julius Bokor 2019



MILAN APARTMENT  
Sketch Julius Bokor 2019