Joining Past and Present: An Addition to the National Museum of Rome

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ABSTRACT

Contemporary, architectural forms which are constructed upon the landscape of a pre-existing structure or built fabric can make important connections with our past and give us a vital, visual expression of historical change. This thesis explores the nature of interventions into old buildings and the importance they play in maintaining an architectural continuity through time in our built landscape.

The study of historical and contemporary examples of building reuse and transformations provide the basis for a proposal to design an addition to the National Museum of Rome. The museum, housed in the ancient remains of the Baths of Diocletian - allows the opportunity to investigate the connections between contemporary and ancient materials and the way in which they are deployed to form a cohesive whole.

This project demonstrates the necessity of building in a way which restores and maintains a connection with the past in order to create meaningful places for our future.

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A recent renovation of the Monastery of Sant Pere de Roda, Girona, Spain.
This thesis evolved from a long and continuous interest in old buildings that express the passage of time in their visual form. This expression can best be described through examples. Figure 1 shows a simple stone wall where a gable-roofed structure was once attached. This simple “mark” gives the wall an added meaning - one is now compelled to imagine beyond the present and beyond the history of its original creation. The visualization of its history forces us to confront its past and the succession of time up until the present moment.

Another example is an entrance to
the old city of Perugia, (fig. 2). At this point one moves upwards on an electric escalator to reach the old city. This stainless steel mechanism passes along side and through a 16th century palace, buried beneath the layers of the present day town. The juxtaposition of these two systems, one contemporary and the other pre-Renaissance, gives an overwhelming sense of the passage of time. One is not simply a voyeur to an artifact, but becomes part of the experience. The old form in relation to the contemporary system brings both into the present moment, and the history of the old is then part of the history of the viewer.

The third example is the cloister of a 12th century Cappucian monastery (fig. 3). Twentieth century renovations transformed the ruinous cloister from the regularized central plan of an exterior courtyard to a non-centrally planned interior room for lectures and conferences.
The new wood roof contrasts with the medieval stone masonry. The form of the old cloister and its repetition of columns and geometric plan remains visible through the alterations and thus the two meanings can be read simultaneously. A participant in this space becomes actively involved in the history of the place and becomes involved with the form of the present moment.

These simple examples demonstrate how building onto and from existing structures can give our environment a continuity with the past. The visual expression of layers and changes through time can stimulate our memories, broaden our imagination, and form a connection with our built landscape. I believe this feeling and sense of connection is fundamental to our growth and existence. The forms which shelter us give meaning to our daily lives and allow us to imagine the future.

**Discontinuities**

Historically, our ancestors built in a way which naturally and unconsciously maintained the structures and buildings of their past while changing them in order to accommodate their new needs. For them, the economic systems made renovations indefinitely more sensible than starting from ground zero. But now our present day methods and political structures of building are breaking the continuity with the past.

This fracture with the past is happening in two fundamentally different ways. First, through the physical destruction of buildings. Much has been written of the great losses that our cities have suffered, especially in the 1960's, due to 'urban renewal'. Precious landmarks of the past were bulldozed in the name of modernization, gentrification and the eradication of urban squalor. This destruction still
continues today, not solely by the wrecking ball, but also due to the decreased durability and permanence of the materials we used in construction. A system of unconsciously planned obsolescence in much of the building practice today creates environments which simply do not last through the generation of people who built them. The materials that we use in construction must be durable enough to withstand the impact of alterations and change. A 17th century New England farmhouse still stands and shelters its inhabitants while a circa 1950's apartment building decays and must be destroyed. This scenario is more and more frequent as a sense of continuity with our past becomes increasingly tentative.

Second, disconnection occurs through the relatively recent phenomenon of preservation and restoration of antiquities. There is an appearance of continuity with the past, yet the result is often as equally disruptive as outright destruction. A structure is "saved" because of its age and historic architectural value and returned to its original state for the benefit of future generations. The United States preserves revolutionary-era buildings in the same way that Europe preserves the ancient Roman ruins and the Renaissance masterpieces.

The solution to the problem of what to preserve or how to deal with old buildings is not to save all buildings from destruction, rather it is the way in which we do it. So often old buildings become embalmed artifacts or fragments of "a history". They are usually no longer connected functionally, socially or visually with the present moment or a particular history. Once a building has been declared historic by the Landmark Commission it becomes frozen in time, forever
suspended and removed from the interaction of daily life. Many examples of this exist: the historic "theme parks" of Williamsburg, Virginia and Plimouth, Massachusetts, the court house in Philadelphia, Beacon Hill, Boston and many historic districts in cities and towns declared "protected" from development by the Society for the Preservation of Antiquities. When visiting these sights one might experience "stepping back in time", yet that act automatically disconnects the viewer with his/her own life, experience and reality.

In David Lowenthal's article, "Age and Artifact" he states the problem of preservation and restoration,

...these protective measures alter conditions in which artifacts are experienced: they remove relics from here and now, from continuity with the world around them, to an exclusive milieu.1

This exclusive milieu is the space that is neither of the present nor the past; it is an artificial reconstruction of an idealized day gone by with no context for a meaningful link between viewer and the place.
Transformations

I believe that temporal continuities and connections can be achieved in our built environment. But methods and systems of construction need to be broadened and adapted. The guidelines for historic preservation of buildings should be expanded and altered to allow for transformations of our historic structures. Only in this way can we achieve continuity - linking past and present to understand the potential of the future.

I view adaptations and transformations of buildings categorized in 3 different ways. Each with different motives and systems achieve a visual layering of its history and changes so that the alterations are discernible in its outward appearance. I have named these transformations as continuous, unconscious and self-conscious and will describe each of their characteristics.

Continuous transformations

A "continuous" transformation is linked directly with function and use. When an institution, be it a church, family or business has a life span longer than that of a generation and is housed in a structure meaningfully linked with its use - the stage is set for a natural continuity and architectural connection with its history. Maintenance, alterations, and additions of buildings naturally occur throughout time as each succeeding generation adapts the space to suit their contemporary needs. This can be seen in residential houses which have accumulated additions as a family has grown and expanded. Many civic buildings have been altered by successive and ever changing administrations -- and perhaps most poignantly, religious buildings are slowly transformed through time because they are often intrinsically linked to a specific
location which is imbued with a spiritual meaning for the congregation.

A rich example of this type of transformation is the basilica of St. Francis in Assisi in Italy, (fig 4). The church was begun in 1228, two years after the death of Saint Francis and has been added onto and on top of on numerous occasions throughout the succeeding centuries. One can literally see the layers of each building strata on top of the previous structure. Because the space has continued to function as a church from the 13th century up until today the congregation is an active participant in the history of the place. A profound link between generations is felt spiritually and physically because of the continuity of use and the visual accumulation of each successive building layer - as one traces the growth of a family, one can trace the marks of the growth of the church in which the family has worshipped for generations.
Unconscious Transformations

The second category of transformations of buildings which visually link the present to the past is the "unconscious". Evidences of this type of intervention exist from the beginning of man up until the present moment. The transformation occurs "naturally" when a building or complex of buildings have been abandoned and then re-inhabited or reused by a new tenant who makes alterations or additions to suit their needs. Often the change of function will drastically alter the character of the space or the new repairs will differ greatly from the previous system of the old structure. Therefore, the visual expression of contrast differentiates the old from the new. The specific characteristic of an 'unconscious' transformation is that the new occupants have a respect for the structure they are altering, but only in terms of its usefulness and structural integrity. The old building
has no value for them or for the culture outside of this thus its unprecious parts are altered, transformed or destroyed without hesitation.

This type of unconscious layering and building reuse are found all over Europe. In particular, and ubiquitous throughout Italy, are ancient Roman buildings left abandoned after the fall of the Roman Empire and then eventually reinhabited by later generations. There exists today many working churches built from the foundations of Roman temples.

A clear example of an unconscious transformation is in Lucca, Italy where the ruins of the ancient Roman amphitheater has become the foundations for apartments. The form of the amphitheater is preserved by the transformation of its structure as the apartments encircle a perfectly oval piazza, (figs. 5 & 6). The two systems are read simultaneously in its spacial form and physical materiality.
Self-conscious Transformations

The last category of interventions into old buildings is the "self-conscious". An attempt is made to differentiate the motus operendi behind what I see as a clear difference between two ways of approaching an old structure. History, culture and societal thought dictates the manner in which we view and give value to the inherited artifacts of our built environment.

Throughout history we have unconsciously made interventions into old buildings which lead to beautiful expressions of the continuity of our architectural heritage and connections with the past. But then something happened in our attitude towards the artifacts of our past. We began to view our "Heritage" as something to be preserved and restored, not altered and certainly not destroyed. This pervasive belief reached its peak with the work and writings of Viollet-le-Duc who felt that monuments should be restored to the time of their greatest perfection and thus many buildings where purged of their layers of successive alterations in order to reach their 'ultimate form'.

This age of preservation in the 19th century paralleled much research and discovery in the fields of archeology and architectural history. For example it was during this time that the tomb of King Tutankhamen in Thebes was discovered by the archeologist Carter, and in Italy extensive excavations in the ancient Roman Forum reached their peak.

Not only were these discoveries and writings of preservationists changing the attitudes of the society, but the industrial revolution and increased mobility of the population aided in this new appreciation of things old. With much greater fre-
quency and numbers, people traveled to see works of art and architecture as transportation became faster and more economical and information about sights and destinations was disseminated. Places such as Rome, Florence, Athens, Cairo became meccas for tourists hoping to rediscover past civilizations, and the obsession for all things old and ruinous began.

Now in the 20th century we see evidences in our culture of the lack of a positive or meaningful link with our past. Technological advances are creating environments in which the new becomes old at an ever increasing rate. It seems that we try to hang on to anything and everything old to reassure ourselves that we do in fact have a heritage. Our built environments suffer the results of this clinging to the past in the ubiquitous historical sights, laws about renovations to old buildings and the real estate prices of historic homes. We regard history as a phenomenon that happened long ago instead of a continuum that we are constantly rewriting and creating.

Self-conscious transformations were born from this knowledge of the importance of maintaining our historic, architectural treasures yet realizing the necessity for continuing our connection to our past by adding to an expression of our present moment.

As Peter Davey, editor of the Architecture Review, writes,

*Just as we have to rewrite history in each generation we must reinterpret the buildings we inherit, and while giving them new uses, endow them with new meaning and add to them the best of what our time can offer.*

In many ways we can look upon building transformations and additions as
paralleling systems of evolution in the natural landscape. A tree grows and changes in its life span, never remaining static or certainly not reverting to an earlier time in its life. Seasons, environmental conditions and the resistance of the tree all make their mark and contribute to the evolution of its form.

Architecture, as part of our built landscape, should be viewed in the same way - as an evolving form which responds to the needs and changes surrounding it. But as nature works unconsciously altering the natural landscape, we as a culture must now work self-consciously to replicate the natural systems.

Various architects have successfully created these types of transformations. The majority of the documented work is in Europe where there is a longer tradition of building reuse. In Spain there are numerous examples including the Hydraulics Museum in Murcia by Navarro Baldeweg, the Palau de la Musica in Barcelona by Oscar Tusquets & Carlos Diaz, (fig. 7), the Statione di Atocha in Madrid by Rafael Moneo and the controversial Roman theater in Sagunto by Portaceli & Grassi.3 In Italy, the work of Carlo Scarpa has been extensively documented as one of the pioneers of contemporary architectural transformations. His work includes the restoration of important historical buildings in the Veneto region of northern Italy from the 1930's until the 1970's.

Scarpa's work is quite self-conscious in the way he builds onto an old structure with reverence for it - yet manages to articulate the new additions in a manner and with a complexity which creates a harmony and unity with the old. Ellen Soroka, in her article, "The Art of Interface in the work of Carlo Scarpa", says of his
restoration work,

They compel one to want to understand the logic that can successfully resolve the differences between the language of an existing order, and another whose purpose is to dismantle but intensify the clarity and consonance of the first while contributing to its profound understanding.4

This is the ultimate goal of a contemporary, self-conscious transformation - architecture which forces us to question, learn and become a participant in the experience and ultimately the history of the place.

One of Scarpa’s most noteworthy renovations is the Querini Stampalia Library in Venice in which he transformed a 17th century Venetian Palace, (fig 8). With a series of bold moves both at the large, urban scale and in the small details he undermines the classical ordering of the original palace to form a contemporary dialogue between the old and new
forms. For example, the new entrance was moved to one of the old windows to the right of the traditional central entrance of the tripartate facade. From the pedestrian bridge over the canal in front of the building one is forced to walk parallel to the bearing wall on the succession of steps from the entry to the lobby thus negating the traditional axial entry, usually perpendicular to the facade wall.

The contemporary system of circulation is 'read' simultaneously with the classical forms that make up the central, axial movement in the pre-existing order. In a similar way, the details throughout are articulated to express the reading of old and new. For example, on the stairs leading to the second level, Scarpa covered the original marble steps with new stone slabs in a way which exposes the old, (fig. 9). As he explained in an interview in 1978,

In this way I renewed the staircase without destroying it, preserving its identity and its history, increasing the tension between the new and the old. I was very concerned to articulate the points of junction so as to explain the visual logic of the union of the different parts.

Scarpa's interventions breath life into old buildings through the articulation of the details - the joints and connections between old and new. Here one learns the logic that makes transformations of older buildings necessary. Without the marks of our contemporary lives the buildings we inherit simply become artifacts to view instead of rich environments to experience.
The Markets of Trajan and adjacent apartments.
I have chosen Rome as the site for a contemporary, self-conscious transformation for several reasons. Throughout hundreds of years, beginning with the first republic founded in 510 B.C., the Romans built in a tradition which used the materials available, reused existing structures to suit their need and created built environments which grew naturally - leaving us with a record of every epoch and style from the great Roman Empire to the present moment. When in Rome the visitor is struck with the great architectural time line visible throughout the city from the excavated Roman Forum to the Fascist-era Esposizione Universale di Roma or E.U.R. Because of this, one feels connected to Rome and its history; one does not feel that they are walking through a museum city like Florence where all building seemed to have stopped in the Renaissance or in a place like Beacon Hill, Boston where a similar building freeze happened in the 1800's. Rome lives in its history and in the present moment - all become one continuum of past, present and future.

There are many examples of continuous, unconscious transformations of specific buildings in the city which reveal
in their form the very essence of the intensity and longevity that is Rome.

The Temple of Antoninus and Faustina was dedicated by the Senate in A.D. 141 and stands, along with many other temples, in the Roman Forum (fig. 10). It was converted into a church sometime before the 12th century and given its present Baroque facade in 1602. The building stands out as quite an anomaly amongst the empty, ancient fragments of the Forum. The 'shell' of Corinthian columns and a frieze tell us that it belongs in this place, yet the expression of the facade behind the facade helps to bring the history it expresses into our lives. We immediately feel a deeper connection to the place, as the life which continues in the tradition of the church gives meaning to the old form which it inhabits.

Another ancient site whose life continues on today through transforma-
tions of form and functions is the Theater of Marcellus, (fig. 11). It stands as a symbol today, not only of the glory of the Roman Empire, but as a testament to subsequent builders who took advantage of the architectural heritage that was left to them. The original theater was begun by Julius Caesar and dedicated in B.C. 13. Originally it had two tiers of arches with Doric and Ionic pillars with an upper stage of columns in the traditional Corinthian order. In the 4th century much of the building was pillaged for usable building material and because of this nothing remains of the upper floor today.

The ruins of the theater were converted into a fortress in the 12th century and then in 1525 the architect Baldassare Peruzzi designed the upper floors into a beautiful Renaissance palace. More recently, the palazzo has been converted into apartments which are now in very high demand. The unique quality of this structure lies in the fact that it is an ancient monument, yet continues to live, function and give shelter and meaning to our present day.

The last example, which demonstrates one of Rome's most recent interventions, is part of what once was the great complex of the Baths of Diocletian for which the following chapter is devoted. This octagonal room, whose original function as part of the baths is unknown, went through various changes and many tenants through its long history until the present. For awhile, in the 18th century, it was used as a kitchen for the Pia Casa d'Industria and then in the 19th century it was used as a gym for the Scuola Normale di Ginnastica. In the early 1900's it was acquired, along with the rest of the bath complex, by the State.
who leased it to the National Institute of Cinematography. They envisioned using the space as a Planetarium and thus they built within the large, vaulted space a smaller dome to project images of the stars. The hall was used as a planetarium until 1974 when it went into the hands of the State Department of Archeology. Extensive investigations and eventual renovations took place in the 1980's and then finally reopened to the public in 1990 with a small collection of sculpture from the National Museum of Rome's collection.7

The renovations, which were headed by architect Giovanni Bulian, included keeping the structure of the small, interior metal dome for functional purposes, to house the ventilation system, support cables, lighting etc. but also aesthetically as a 'modern' form juxtaposed against the ancient structure, (fig. 12). This allows for

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**Fig. 12**: The "Planetarium" of the Baths of Diocletian, now part of the National Museum of Rome.
a dual reading of the contrasting systems - one old, heavy and massive, rising slowly from the ground to achieve its concave vault, the other light, finely wrought, easily forming the hemispherical dome with a thin net of structural steel. The newer acts as a framework to view / perceive the older creating a dialogue that unites the gulf of time between them.

This renovation leads the way for the type of transformations needed throughout the city - to keep the continuity of the built environment through to the present day. In the 20th century there seems a fear, hesitation to reveal these type of transformations on the exterior most likely because tourists come from all over the world to see ancient Roman artifacts and Renaissance and Baroque masterpieces. But I believe the experience of visiting Rome is enriched by seeing not only the monuments and masterpieces of the past, but also the way we have integrated our contemporary lives into that inheritance. We can see ourselves as part of that continuum of time which began before the caesars and will continue through future centuries. We must respect the monuments of our ancestors, but realize that the marks we leave for subsequent generations will be just as important to them as a record of the complete passage of time.

I have chosen the Baths of Diocletian as a site for a positive, contemporary transformation in the city which hopes to propose a new way of thinking about the monuments of the past and the necessity we have to continue their integration into our built environment.
Detail of map of Rome by Stefano Du Perac.
The Baths of Diocletian were begun in the year 298 A.D. by the emperor Maximian for his brother Diocletian, and inaugurated in the year 306 A.D. They were the largest baths in all of Rome, and could hold three thousand bathers at one time. They were built to rival the grand Baths of Caracalla and to serve the population in the northeastern neighborhoods. The size, scale, and sheer number of baths in the city are a testament to the importance of their function in classical Rome. Bathing was only one of the many functions that these public buildings provided, they were places for physical recreation, social and intellectual gatherings, reading and the activities associated with bathing such as massage, anointing with perfumes and swimming. They were one of the few institutions in which all people came together, regardless of age or class in a daily ritual that promoted the health and well-being of all citizens of the empire.

The Baths of Diocletian had a standard, symmetrical plan around the central axis of the main bathing halls. The sequence of these baths were not strictly adhered to, but generally after some exercise in the playing fields one would start with the south facing, circular caldarium and then work their way northward to the tepidarium, frigidarium.
and then finally a possible swim in the giant outdoor pool.

The Baths were in continuous use up until 528, when the siege of the Goths interrupted the aqueduct of the Aqua Marcia thus stopping the flow of water to its pools. From that point on the structure went into a long period of abandonment and decay. As the population of Rome decreased in the Middle Ages the city center shrank farther away from the area around the then vacant Baths and the once prosperous region of the Quirinal and Viminal Hills. During the long period of abandonment the Baths were generally excluded from the pillaging of building material which destroyed many of Rome's ancient monuments because of its distance from the main population. Thanks to this much of the original bath structure survives today.

Activity did not begin to return to this area until the 15th century. It was in
1554 that a French cardinal named Jean Du Bellay was granted land southwest of the ruins where he built a small residence and large garden in the semi-circular exedra of the Bath grounds. Also during this time Montaigne writes that the Bath structure itself was used by Roman nobles to house wild horses.

The first alteration to the actual bath structure occurred in 1561. Pope Pius IV entrusted to Michelangelo the work of transforming part of the building into the church of Santa Maria degli Angeli. This had been an idea for many centuries, starting with pope Urban V in 1363, to put a monastery in the ruins for the Certosini monks. Nothing was realized though because the pope would pass away before the work was completed and, as often was the case, the succeeding pope had no interest in the projects of the previous pontiff.

The project to convert the Baths into
a church finally took hold when a pious, Sicilian priest named Antonio del Duca, after a vision of angels, convinced Pope Pius IV to transform the baths into Santa Maria degli Angeli. Del Duca envisioned using the great rectangular frigiderium as a nave, with the entrance to the church at the northwest end where there was access to Pope Pius' new Via Pia. But it was Michelangelo, with whom Pius entrusted the design, who placed the entrance at the southwest end, at the great rotunda of the ancient tepiderium. At the opposite end he added a chancel choir where there was a passage to the great exterior swimming pool. This created a centralized plan with the two axis' crossing at the great hall, each end of the N.W.-S.E. axis having a small side entrance.

Although the dedication of the church in the Baths was a significant change which would affect the site up until the present moment, the physical
alterations were quite minimal. Michelangelo added partitions to the side entry rooms to complete the enclosure, and the chancel behind the altar was built out at the exact dimension from the main entrance as were the two side entrances across the great hall, thus creating the symmetry of the centralized plan.\(^\text{13}\)

Very little of Michelangelo's work could be seen after the remodelling carried out in the 18th century by Luigi Vanvitelli. He closed off the two side entrances leaving the one main entrance, and encrusted the simple surfaces that Michelangelo retained with much late Baroque ornamentation, (fig. 13).

In 1792 Vanvitelli was also commissioned to design a facade for the church as presumably the plain, inarticulated, concave apse of what was once one wall of the ancient calderium hardly seemed appropriate for the grandeur of the interior spaces. He designed a simple facade
in an elegant yet restrained style which gave the church a presence on the exterior, (fig. 14).

All during the 18th and 19th centuries various other projects found their way into the remains of the bath structure, behind and to the sides of the church. At one point there were store rooms for grain and oil. From 1849 to 1867 part of the cloister of the then defunct monastery was ceded to the French troops who used them as dormitories for troops and for storage of provisions. In 1874 another part of the baths was put to use as a school and also a hospital for the blind. Throughout the 1800's other areas of the baths were in private hands containing all kinds of activities including inns, restaurants, hay barns, laundries, chicken coops and a charcoal store. 14

After reading the various histories of the site during this time the image that one is left with is a veritable hodgepodge of shelters within this enormous complex of ancient rooms and partitions. Most were hastily erected with wood, but some more permanently made their mark on the surfaces of the ancient walls.

During this time the surrounding area also went through many changes. The construction of the main railway terminal for the city in 1860 had the greatest and most far reaching impact on the site. From then on this area became a center for transportation in and out of the city. Today not only do all the main railway lines depart from and arrive here, but it is the main bus terminal for local and national buses and is the transfer point for the only two subway lines which cross the city at this point.

In 1865 the Via Nazionale was cut through connecting this new transportation hub with a direct link to the center of the old city. The main entrance to the church of Santa Maria degli Angeli with
its odd, concave facade marked the top of the street as it descended down the hill towards the city. This complete systemization of the piazza in front of the church cleared away all remains of the bath ruins in front of the church and demolished the hemicycle facing the entrance. Only the memory of its form was maintained with the construction, in 1883, of the monumental esedra flanking the entrance down the Via Nazionale.
The Baths of Diocletian and the surrounding street development in the 19th and 20th centuries.

City census map from 1829 showing the farm land around the church and the ruins of the baths.

City census map of 1866 showing the initial planning for the Via Nazionale and the new train station to the right of the baths.
Map from 1891, the Italian Cartographers Institute showing the completed Via Nazionale and the enlarged train station.

1934 map by A. Marino and Mauro Gigli showing the cutting through of the Viale Piazza di Piemonte (now the Via Eunaudi).
The museum

The bath structures except for the church and several rooms to the northwest of the main entrance, experienced their greatest transformation in the first years of the 20th century. The National Museum of Rome was founded in 1883 to acquire all State collections of antiquities from excavations, purchases or donations in the city or provinces of Rome.

The Baths of Diocletian was chosen to house the collection because of the prestige gained from the ancient monument and the fact that the State already owned part of the structure at that time which it leased to the military administration. The process of acquiring the space from the various other tenants and clearing out the assorted accumulation of debris and partitions continued until 1911. Much was destroyed during these years with the State's political agenda to free the
ancient baths from years of abuse. The State wanted an unencumbered expression of the ancient monument to be the symbol of their new museum. This meant the destruction of the facade of Santa Maria degli Angeli which hid a rough masonry wall devoid of any articulation or ornamentation. This is the exterior expression of the church that we see today - an unfortunate sign hangs on the empty facade to indicate the institution within, (fig. 15).

A new wing was added to the museum in 1926 to house the continually acquired sculptures. This was placed on the northeast side adjacent to the large cloister.

Up until 1976 the main entrance to the museum was in the southeast corner near Via Eunaudi which links the Piazza della Repubblica, at the entrance to the church, to the Piazza dei Cinquecento at the railway station. One visited the rooms of the baths before entering the new wing and the two cloisters. The park surrounding the baths was open to the street and in early photos appears to have been a quiet retreat from the city.

Sometime in the late 1970's an ancient vault collapsed in one of the rooms surrounding the church thus closing this entire section of the museum and displacing the main entrance to the northeast at the new wing. The park was fenced off all the way around, from the entrance of the church to the remains of the ancient enclosure wall on the far northeastern end.

Fig. 15: The present day facade of the church of Santa Maria degli Angeli.
The museum today

Presently, the museum is confronted with many problems which keep it from being a major institution in Rome. First and foremost is its lack of a physical presence in the city. Due to the urban development that happened during the turn of the century the new street pattern moved around the museum complex, not responding to it, thus, except for the entrance to the church, the rest of the structure is set far back from the street behind a screen of iron fence and tall trees, (fig. 16).

In the 1940's the main train station was rebuilt which completely changed the character of the Piazza Cinquecento. The new station was placed quite a distance behind the old one thus increasing the size of piazza considerably. No longer did the station serve as a closure for that end of the piazza and therefore intensifying the presence of the museum across the street. As it stands today the piazza is a vast, unarticulated space - the terminus for most of the city's buses. There is no longer definition to the space on any edge and the trees in front of the museum simply add to the overall grey screen which diffuses instead of intensifying the space.

Since the entrance was moved to the new wing it is now accessed off of this piazza. There is absolutely no visual markers indicating its presence on or near the street. To find it one must walk the 30 meter depth of the sidewalk, through the tall plain trees, read a small sign attached to the iron fence then walk another 55 meters back alongside part of the old bath structure, through a garden to an unremarkable door in the new wing, (fig. 17).

After the collapse of the vault, which has since been repaired, the museum does
not profit at all from its greatest asset which are the incredible rooms of the ancient baths. These rooms are now used for storage and for the restoration of sculptures and are completely inaccessible to the public. Since there is no circulation in or out of the various openings of the walls, the park surrounding is a fairly inactive and stale place, doing little to offer a refuge from the noise and traffic of 20th century Rome.

The museum also lacks the amenities which are essential for the economic survival of today's major museums such as a gift shop, a bar and restaurant, a lobby with circulation for large tour groups, a lecture hall for cultural events and most importantly an exterior presence in the city which expresses the nature of the treasures within and communicates the importance of the institution.
Interior views of the southwest rooms of the Baths, now used as storage and for restoration laboratories at the National Museum of Rome.
The southwest corner of the Baths of Diocletian with a perspective to the Apodyteria.
The addition to the National Museum of Rome.
Design Intervention

The first design decision, which lead to the initial organization of the addition to the Baths, was to move the entrance of the museum from the hidden, out-of-the-way present location on the north-east side of the complex to the more active Piazza della Repubblica. At this point there is a major subway entrance and the piazza has a defined edge which acts as a main entrance down the Via Nazionale to the old city.

Secondly, I wanted to bring the museum out to the street to give the institution, which is presently obscured with a screen of trees and a high iron fence, a visible presence to the passer-by. This change forces the form of the addition to respond to the new street system which has grown around the bath complex.

The addition is organized with an entry pavilion next to the church entrance which leads into a semi-public piazza or entry court for the museum. At this court one encounters the enormity of the ancient bath walls against a foreground of tall pine trees, a large reflecting pool and reproductions of ancient Roman sculptures which help to bring the scale down to a human level. The street wall and
trees create shade and seclusion from the noise and traffic of the area.

From the entry court, or park, one passes through an opening in a large, free-standing masonry wall which extends from the reflecting pool to the inside of the addition. At this point one ascends six steps to a slightly higher level where the museum experience begins.

The third point of transition, which is the actual threshold from the inside to the outside of the museum, is the zone which separates and connects the new addition and the old bath structure. As one moves perpendicular across this zone and alongside the free-standing wall, there is a view all the way down to the street and to the left, between new and old construction, to a courtyard beyond.

Once inside the addition, one has a view beyond to a smaller garden behind the reception desk directly in front. The main circulation runs visibly along the ancient, rusticated wall which is bathed in light from the skylight above, delineating the zone between old and new. Before turning left into the existing building where the main sculpture exhibits begin, the building ends at a fully glazed wall which opens out to a large formal courtyard, formed as a cloister. The space is defined by the old wall on one side and new construction on the other. An arcaded passage around the courtyard allows circulation around the perimeter and steps lead down to the slightly lower level of the courtyard, planted with formal rows of small, ornamental trees and with a fountain extending the length of the space.
Church of Santa Maria degli Angeli
The detail of the entry park shows the entrance directly off the Piazza della Repubblica next to the concave entrance to the church. A 3 meter high wall blocks out the traffic on Via Eunaudi behind which are tall plain trees providing a shady area to sit and view the Baths.
The addition is connected to the existing Bath structure by way of a light-filled zone. This is delineated by a skylight above and blue, ceramic tile on the floor. The addition faces a formal courtyard to the north, and to the east are offices and a lecture hall.
The second floor is accessed by way of a staircase in the main lobby. Upstairs is a bar which overlooks the courtyard, and a restaurant which has views down Via Eunaudi to the train station and the city beyond. The library is over the lecture hall with a reading room that looks over the formal courtyard.
The formal courtyard lies within the museum complex and is planted with small, ornamental orange trees which recall the formal orchards planted in ancient Rome. The perimeter has an arcaded, covered passage which allows for circulation all around and access to the restoration laboratories and the rest of the museum to the north.
The Baths of Diocletian, originally built in 300 AD, were constructed of Roman brick and cement. The load-bearing walls range from 1 to 2 meters thick, with piers almost 3 meters thick, which are massive enough to support the groin vault over each room of the old baths. Due to decay and the patina of centuries, the walls and ceilings are now completely unadorned, stripped of their once ornate marble embellishments and original stucco finish. The structure is completely revealed - the individual bricks which make up the entire structure are exposed and one is confronted with a simple understanding of the structure and building construction of the 5th century.

Similarly, in the addition the structure and method of construction is revealed and expresses our contemporary materials and how they are used. The primary structural system is steel which allows for the clear expression of joints and connecting members. Steel columns and beams can carry great loads with minimal thicknesses, thus exposing the narrow steel members and contrasting them with the massive ancient system. By juxtaposing the two contrasting systems, there is a greater understanding of the internal structures working within each.

The exterior cladding of the simple steel-framed addition is a smooth-finished granite. The intention was to use a common material to Roman construction which was analogous to the ancient masonry in its material content, and which also contrasts with the treatment of its finish and method of deployment. The street-side elevation, which is south-west facing, has minimal fenestration to keep
Structural diagram of the ancient vaults of the Baths.

Section detail of the addition at the glazed north elevation wall.
out the harsh sun and to create a shaded entrance, with lower light levels, in the initial rooms of the addition. As one moves north, alongside the existing structure, the light increases; the sun bathes the old brick facade from the skylight above. The northern-end wall is entirely glazed and opens out to the formal cloistered courtyard. The window mullions of the glazed wall are narrowly spaced with the horizontal elements dominant over the vertical mullions. This delineates a smaller “unit” within the larger whole, making it analogous to the clear expression of the small brick unit in the ancient masonry walls which form the old structure.

The roof of the new addition is analogous to that of the old structure in its form and seriality. The roof of the existing building is composed of small, similarly formed units which combine to form the whole. All the elevations read as a series of gable ends. In the new addition, the folded-plane roof is comprised of a series of smaller gable ends. The massive supporting vault is revealed in the interior expression of the ancient rooms. Contrastingly, in the new addition the gable, and the precise way in which it is constructed, is revealed. The individual steel rafters supporting the slope are exposed, as are the joints which connect them to the horizontal supporting member which tie to the columns.

I have attempted to understand the basic structural and formal elements which form the ancient building. The intention is to deployed an analogous, yet contrasting system in the new building creating a dialogue between the two.
plan with cut orienting the elevation
System of Movement

The circulation system for the original bath complex was formal, linear and symmetrical on the axis of the rigid, orthogonally structured rooms. The church still retains this system with the main directional movement from the entrance back to the altar, and the secondary direction perpendicular to the monumental transept, which used to be the great hall of the frigidarium.

The addition to the museum, adjacent to the old complex and imposing itself into it, employs a contrasting system of circulation. The movement of the new museum experience is diagonal to the orthogonals of the existing building. This newly imposed system begins at the entry 'gate' next to the church entrance and continues through into the old structure.

When entering the complex, one first perceives the newer system of the addition at the large wall in the entry park where steps rise to a slightly elevated level which identifies the 'diagonal' system of movement. Once inside the existing building, the higher level floor covers the original ground plane of the baths, but enough of the old is left revealed to read the two simultaneously.

The placement of the sculptures on large bases reinforces the diagonal movement, they prohibit direct passage down the center axis of these rooms. The formal courtyard, adjacent to the main exhibition rooms, is centered along the main axis running from the northern glazed wall to the ancient apodyteria with its partial roof. A fountain running down the center of the courtyard blocks any movement directly on axis and one is forced to move off axis with only a visual reference straight through.

By creating a new system of move-
ment through the ancient complex, one not only experiences the old spaces in a new way, but through juxtaposing the new and old, each system is given deeper meaning.
fold-out: Longitudinal Section through addition and existing building.
plan with cut orienting the section
**Framing/Views**

One of the intentions of the proposed addition is to provide a reference or framework for viewing/perceiving the ancient structure. At present, the beautiful walls of the old baths are hidden behind the trees of the park, they create a screen to the street and block any perception of the ancient walls from pedestrian and vehicular traffic. By reorienting the entrance to the Piazza della Repubblica there is an opportunity to set up formal views of the baths from various points - for example, from the subway entrance at the curved esedra facade, from down Via Nazionale and from the entrance to the church. This formal system of marking thresholds and framing views has a long tradition in Rome, e.g. the decorated gates to the city on the old surrounding wall, like the Porta Pia and the gate at the Piazza del Popolo. Pope Sixtus V was perhaps the first to do this throughout the city in a systematic way when he erected numerous obelisks, marking intersections and framing views of the urban landscape.

The newly designed park on the Piazza della Repubblica sets up a series of thresholds and framing devices to view the ancient structure and to mark the new entrance to the complex. Directly on the Piazza della Repubblica is a canopy roof structure which not only acts as a large framing gesture for the entrance, but as a shelter from sun and rain in the heavily used piazza. From here one can see diagonally across the park through the large opening in the free-standing wall and back to the entry doors for the museum. This sequence of spaces creates a formal progression up to the entry and defines places along the path for people to rest and look at the ancient walls.
A view of the entry court from the Piazza della Repubblica
A series of different elements in the park help to define the scale of the monumental structure and bring it into some relationship with a human being. The original ornamentation of the baths served this function, where smaller-scaled sculptures and decoration adorned the massive walls. Small jets of water at the entrance are in the foreground because they are closest to human-scale. The statues stand against the free-standing wall, providing the next jump in scale and also marking the threshold to the raised plane of the museum. In the background, against the ancient walls, are a series of tall pine trees which relate to the scale of the baths.

Once inside the addition, the columns and the overhanging second floor frame the view to the small inner garden and to the large, formal courtyard to left of the entrance. The series of statues reappear along the north wall, again referring to the scale of the old structure. The trees in the courtyard frame the view down the center axis along the fountain, and the columns that support the covered passageway help mark the space and create a series of frames for viewing the courtyard.

On the exterior of the complex, there are two particular places where one can catch glimpses of the activities and spaces inside the complex. First, from a point along the street lining Piazza dei Cinquecento, there is a break in the new buildings which corresponds to the axis of the transept of the church. This was one of the main axis' of the ancient bath structure. From this break one can see between the two buildings through to the courtyard beyond. The second point is along the busy Via Eunaudi where the wall of the addition breaks and becomes the free-
standing wall enclosing the park. This point is aligned with the zone between the old structure and the new construction and from this point at the street one can see between the statues in the glass 'display box' and through to the light-filled 'connection' space. It may even be possible to see beyond to the passageway around the formal courtyard if the light conditions are right.

These perspectives through the site define the space and create an interplay between the formal structure and movement in the old complex and the new construction which reinforces and intensifies the experience of the site.
Elevation of entry to addition with section through existing building.
Plan of entry zone and connection to existing building.
fold-out: Section through addition and formal courtyard.
plan with cut orienting the section
Markings

The reason one knows or perceives that an artifact has been altered or changed in its lifetime is due to the physical evidence remaining on its surface. For example, in the Temple of Antoninus and Faustina in the Roman Forum, which has been discussed previously, the grooves incised on the exterior columns have no current meaning or use, yet it is clear that they were once created deliberately and painstakingly to serve some construction purpose. Only because a direct, physical alteration was made to the existing building do we have a visual record of the changes through its history. It is this fact which causes us to imagine, investigate or simply give the artifact a deeper meaning, and thus allow for its appreciation.

Through using new building techniques, and by using the latest in construction materials, it is now possible to build onto an existing building without making any noticeable alterations to its surface. With modern gaskets and sealants we can make air-tight connections between new and old that can be removed years later without leaving a trace.

I believe it is important in the addition to the museum that the new construction make some mark upon the ancient walls - a permanent, irreversible change which will remain long after the glass has broken and the steel frame has been altered to accommodate a new function. This permanent alteration should be minimal in order to maintain the character of the ancient structure, yet be bold enough to suggest and mark the time the alteration was made.

At each point where the new construction meets the old there is a 6-10 centimeter-wide groove routed approximately 6 centimeters deep into the old
masonry to accept the steel channel that holds the joists, window frame, or whatever is specified to be attached to the old building. In the case of a glass panel connected to the old wall, like at the entry corner, the frame of the panel is imbedded into the groove, giving the impression, from a distance, that the masonry wall is continuous through the glass. The perception of this continuous surface is broken when one moves towards and past the glass and sees the steel frame within the depth of the masonry.

This system allows for a double reading of the connection based on the movement of the viewer, in which the existing building appears unaltered and continuous and the other which reveals the physical alteration to the pre-existing structure.
fold-out: Section through addition and formal courtyard.
Water

The tradition of using water as integral to architecture and urban design is as old as the city of Rome. The ancient Romans built monumental aqueducts which ran across the countryside, bringing water from the hills of Albano to the city. Water was plentiful and celebrated and the public baths were an expression of the waters' abundance. Later, in the 17th, 18th and 19th centuries, the Popes made monuments to themselves and their achievements in bringing water into the city by building waterworks and fountains throughout the city. Even today, Rome's fountains are overflowing with some of the cleanest water in Europe and small drinking fountains can be found every couple of blocks, running continuously day and night.

The once abundant waterhole of the Baths of Diocletian is now quite dry; the closest water is at the center of the Piazza della Repubbica, which is almost inaccessible due to the rotary of the car traffic which speeds around the circular fountain. As a reminder of the primary resources that this ancient structure celebrated, this project brings the water back to the site in a few different forms.

First, one hears the splashing of a series of water jets which help drown out the noise of the city and create a spacial and auditory change from the piazza outside. The water splashes down on the pavement from the sprays close to the entry, but as one moves farther into the park, the sprays come from out of the large pool which changes the splashing sound to a more muffled noise. The large pool, which comprises a third of the space of the park, reflects the facades of the ancient walls and recalls the large pools which once filled the bath complex.
At the other end of the park, before the long, free-standing wall is another smaller fountain which marks the zone which connects new and old. Once up the steps and across the threshold of the entrance this zone space is delineated in a blue tile which recalls the water in its reflectiveness and deployment along this zone. The tile becomes water again as it appears on the other side of the addition in the formal courtyard. Here the water is formally deployed and symmetrical with the space, mimicking the formal layout of the ancient rooms.

A view of the entry court with large reflecting pool
Section through threshold connecting addition to existing building.
Plan of threshold from addition to existing building.
fold-out: Elevation of entry park with section through addition.
Detail of formal courtyard and north elevation.
Detail of entrance to the museum.

Detail of formal courtyard and north elevation.
Detail of the Markets of Trajan and adjacent apartments.
Conclusion

Throughout the course of this research project, I have come to understand and appreciate the city of Rome in a new way. Originally I chose the site for the design intervention based on a casual interest in the city, and as a vehicle for becoming more knowledgeable about its history and the forces that shaped its development. I now realize that Rome is unique; perhaps no other city in the world combines such a plethora of masterpieces and monuments, juxtaposed and layered to form an almost complete continuum in visually expressed time from before Christ to the present moment.

Walking the streets of the city one sees buildings visually altered and transformed from ancient to medieval and from Renaissance to Baroque. The textures, layers, light and sound all tell a story of life - continuous through time.

Yet this rich architectural continuum seems to have stopped somewhere around the early 1900's. Now one only catches glimpses of contemporary transformations in small-scale renovations and building reuse, for example in the shops of the old city. The larger-scaled buildings and projects of the 20th century are either strangely disconnected from their sur-
roundings or are built completely isolated from the rest of the city like the development of EUR.

The Romans are now precious with their monuments, fearful that altering them will stop the flow of tourists or radically alter the character of the city. But I feel that this attitude breaks the tradition of building that Rome has endured and even celebrated for centuries.

My hope is that this thesis demonstrates that it is possible to create a large-scale contemporary building which not only integrates with an important historical monument, but gives it a richer understanding as the two seemingly opposite systems work to inform each other. Not only is this possible, but necessary in order to restore and maintain the vital connection to our past which gives meaning to the places we inhabit.
Footnotes


14. Massarini, Museo Nazionale Romano, p. 11.


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Periodicals


