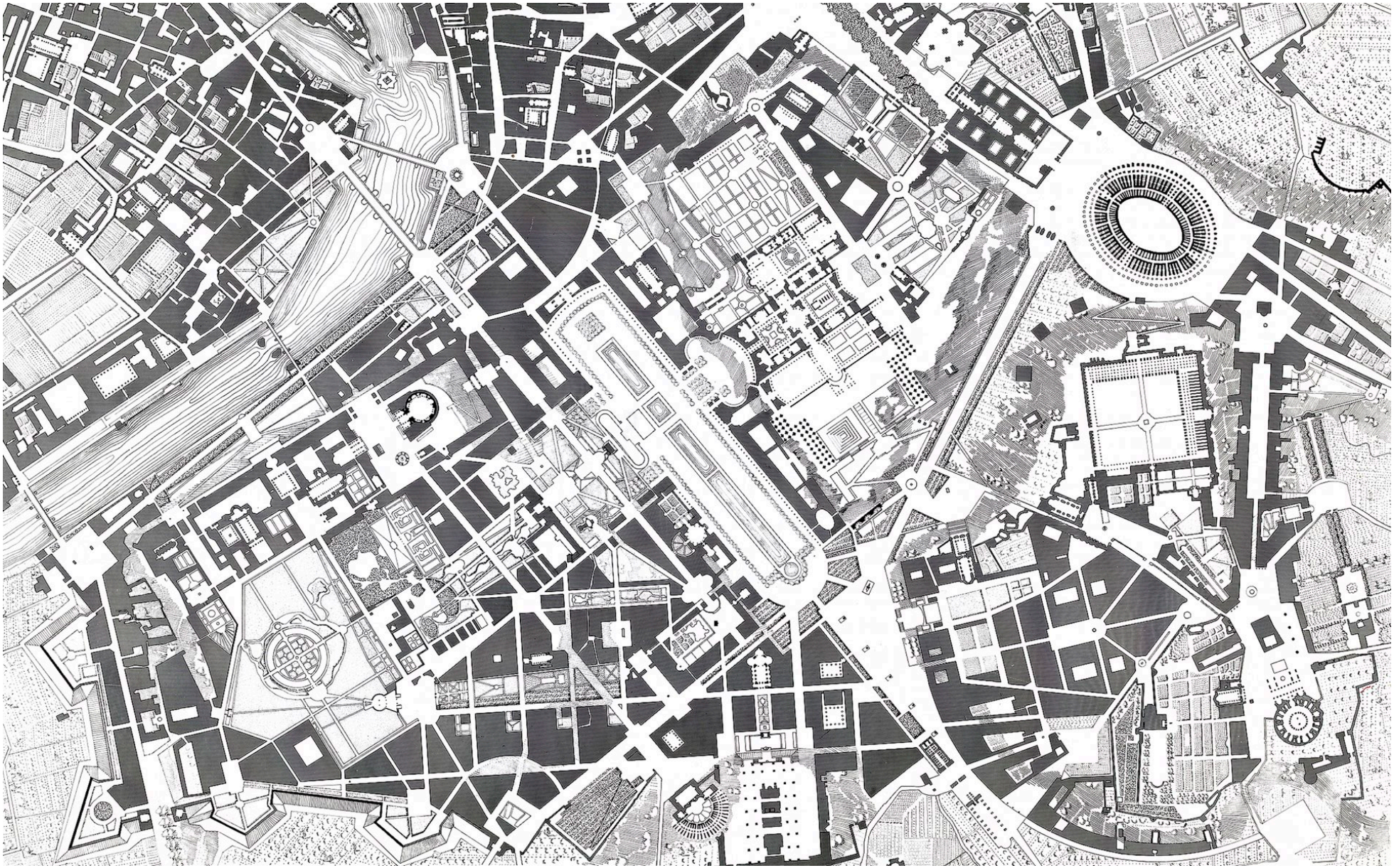
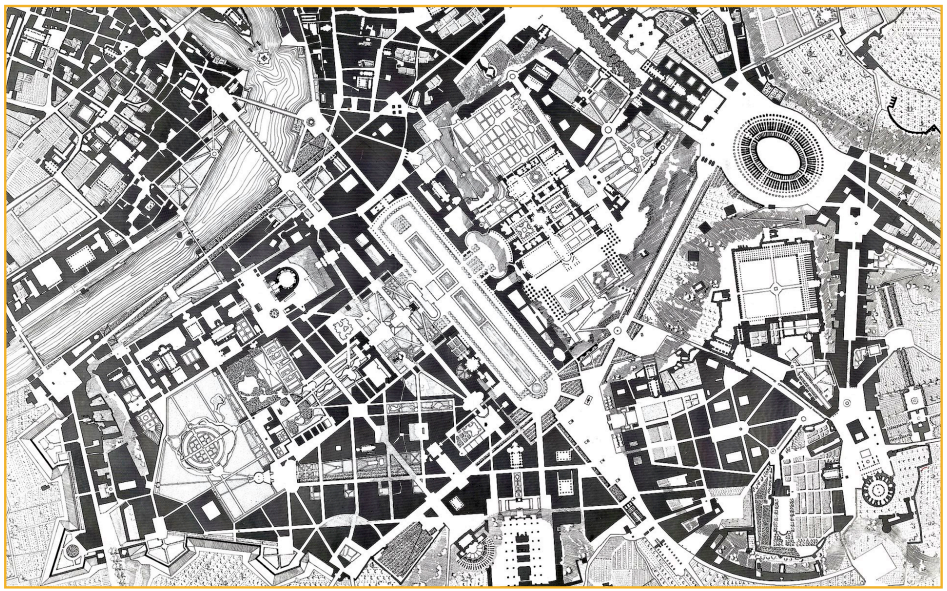


URBAN DESIGN TACTICS

STEVEN PETERSON

BEFORE: Existing conditions surrounding the Circus Maximus shown on the Nolli Plan of Rome in 1748



AFTER: Urban Design Proposal for the Colin Rowe sector of the Roma Interrotta Exhibition of 1978

[1.] *The final design plan for Roma Interrotta was completed by Colin Rowe and Steven Peterson and incorporated the separate proposals for the top of the Palatine Hill by Peter Carl and for the top of the Aventine by Judy DiMaio.*

THE ROMA INTERROTTA EXHIBITION: and Urban Design Tactics

This article was written for *Architectural Design Magazine* which documented the Exhibition "ROMA INTERROTTA", held in 1978 at Trajan's Market in Rome, Italy. It describes the formal elements and compositional methods that were developed in the design of the Nolli Sector VIII map assigned to Colin Rowe.[1.]

The overall plan strategy of the project was: to extend the Nolli urban fabric, to show how the empty southern hill spaces could be occupied as an urban extension of the central city, and to use the quintessential spatial structure of the Nolli map. See the "before and after" plans of the map sector to the left.

To achieve this, a variety of formal tactics were employed and explored in the final design plan. These tactics are identified and explained in the article with the implication that they are also categories of formal order applicable to the urban design of all cities.

The project is a kind of poetic composition of change in space at different times, with an invented plan of evolving growth connected to an invented history of places and events. *(click to read Colin Rowe's comments)* It looks almost finished, like a master plan, but it is incomplete, a map of fragments "in progress" as starting points for later additions. Note the areas around the Colosseum, east of the Celio Hill, south of the fortifications and even on top of the Aventine.

The existing conditions plan shows that, Urban Rome had not yet reached south into the empty hills, vineyards and villas in 1748. Even today, this aerial photo shows the area is a scattered mix of disconnected sprawl.

TODAY: Aerial photo of the Nolli site sector VIII from Apple Maps

So,the question posed by the exhibition and addressed by the article is:

What is Urban Design?

Urban Design

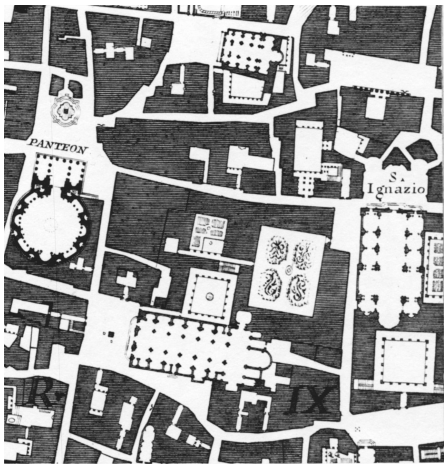
Urban design is a synthetic, inventive mapping of physical conditions that establishes and explores whole areas of the city. In other words, it is architecture – but encompassing more in scale, intention, and technique. Three basic questions of morphology are connected with the discipline of urban design in its examination of the city as a physical entity:

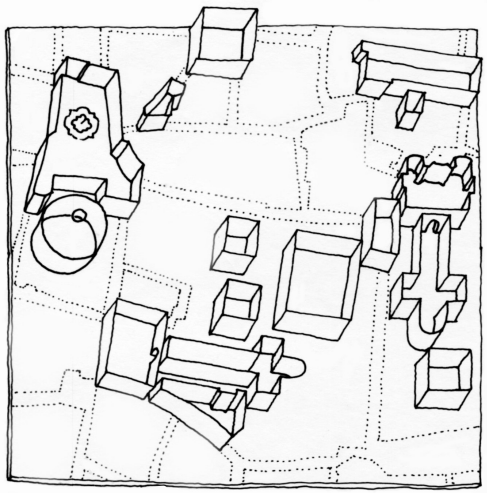
First — What is the essential prerequisite medium of urbanism itself?
Second — What are the constituent urban elements of the city?
Third — What are the formal strategies and tactics available to provide coherence and relationships among the elements?

Space: The Medium of Urbanism

The Nolli map epitomizes the basic condition of urbanism. The city of Rome is represented primarily as the interwoven relationship of spaces, incorporating the entire spectrum of sequences that connect the public and semi-public to the private. The space as it is drawn by Nolli is a particular and specific conception that can be interpreted as the positive actuality of volumetric form: the space is more figural than the solids which define it; it is conceived as a positive entity in an integrated relationship with the surrounding solids; it is itself the prerequisite medium from which the whole fabric of urbanism emerges (figures **1**, **2**).

This concept of space as an existent form is prototypical, and the generating ingredient. Its essence or memory are discernible in varying degrees of definition and specificity in every successful urban situation. The exact opposite of this is the modern conception of space as a ubiquitous continuum without form, inhabited by an assembly of autonomous objects. "Modern" space is consequently anti-urban, and in comparison to the space of Nolli, could be called *anti-space*. See Space and Anti Space





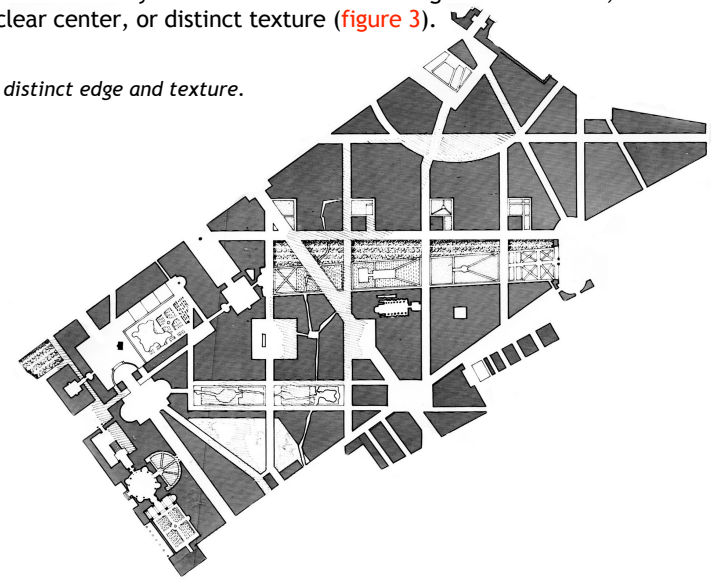
1) 2) In Nolli, figural space as a positive volume generates the urban medium.

Urban Elements

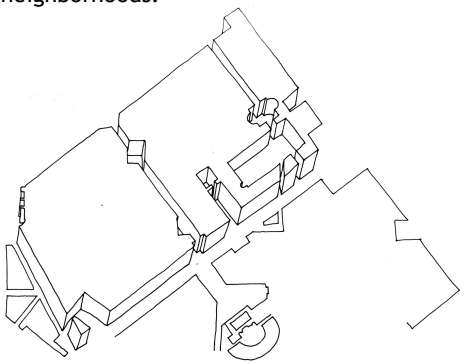
Delineation of the elements deriving from space begins with the most characteristic aspect of the city, which is not the isolated space itself nor the block as object, but the combined fabric of both, extended over an entire area in an associated larger group form. When this area is recognizable and coherent it is defined as a **"Field"**. Its subsidiary elements are **Texture, Street and Square, Block and Block unit**. Each of these elements, including the field, can be designed and manipulated in a corresponding relationship between plan and perceptual experience.

The **Field** is an area of the city that has distinct defining characteristics, achieved through clear edge, clear center, or distinct texture (figure 3).

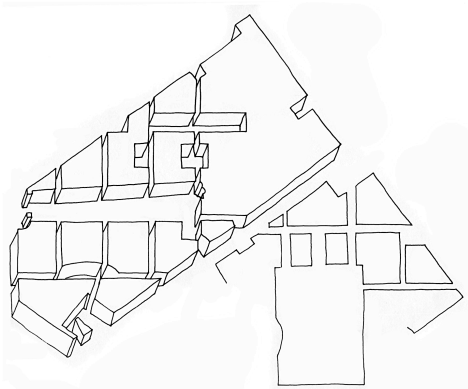
3) A field defined by distinct edge and texture.



It is mosaic in form, non-linear, non-axial, repetitive, continuous and possibly disordered. It has the design qualities of fabric or surface (figures 4, 5); its edges can be shaped; its inner area inscribed with pattern; it can be joined with other fields, overlapped and interwoven. As an aggregate formal entity it sometimes corresponds to districts or neighborhoods.

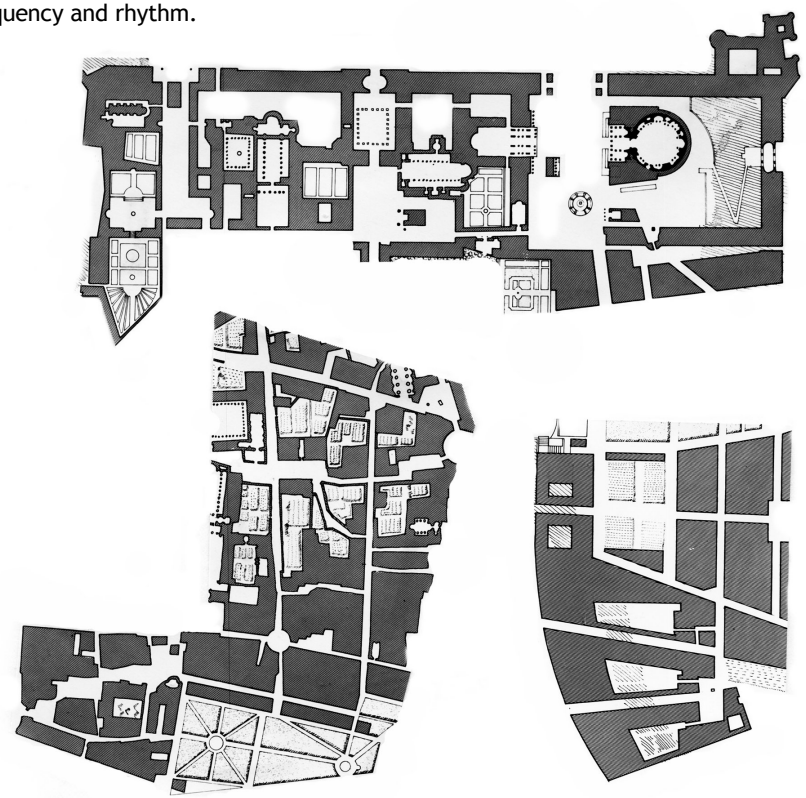


4) The field inscribed with orthogonal spaces.



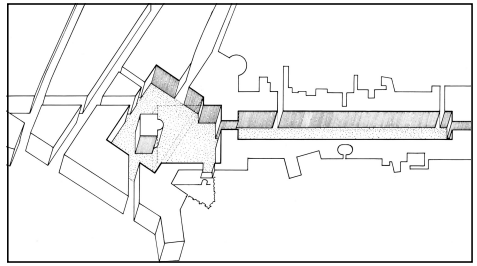
5) The field composed of a diagonal gridded texture corresponding to terrain.

The **Texture** is the basic matrix material of the city. It is characterized by the combined pattern of streets, squares, and blocks, whose variations range in a continuum of typological orders from the gridded to random. The variables of texture are degree of regularity, proportion of solid to void, and density. It has aspects of scale and repetitiveness, depending on the frequency and type of streets and blocks; it has grain and directionality depending on relative street widths and orientations (figure 6). The modern, or anti-space city texture does not provide as many variables and is limited to frequency and rhythm.

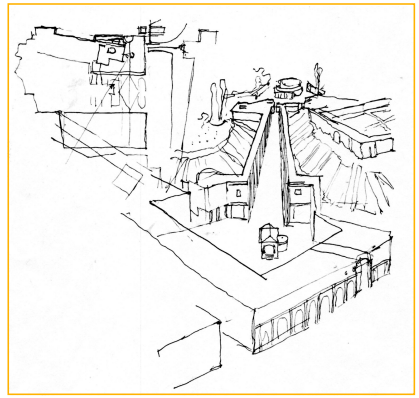


6) *Three illustrations of texture with varying degrees of regularity, scale, and proportion of solid to void. One contains no blocks but an assembly of large buildings, another is a transformed block system, and the third is a random pattern overlaid with regular lines.*

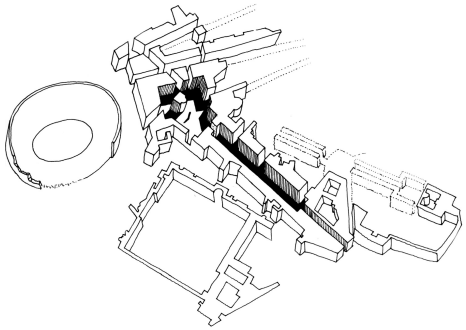
The **Streets and Squares** are the principal elements formed from the urban medium of space. They are definitive and specific, constituting the active compositional elements of the field. The *street* is linear, axial, open and continuous (a cul-de-sac is not a street). It is the ordering element that connects through the city, beyond any local field, as well as the essential constant strand of local texture. The *square* has the opposite characteristics of street: it is centralized, closed and discontinuous. It acts as a spatial variable linked by the streets into the field. The square, with its variety of possible configurations, ranges from a central place of identity and focus (figures **7-10**), to a peripheral receptacle of mixture and transitions (figures **11**, **12**).



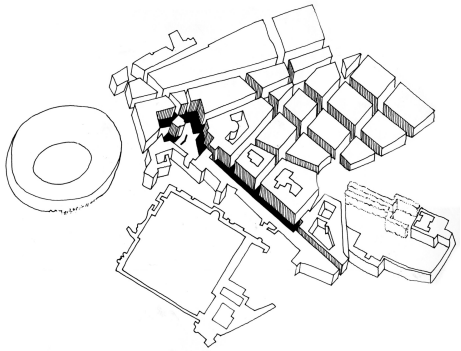
7) *A complex linkage of spaces leading to St Stefano Rotondo from the Coliseum; the main Piazza is an overlap of two squares corresponding to different directions of movement.*



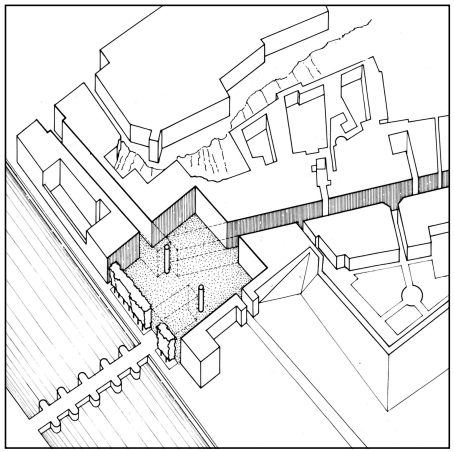
8) *View up to hilltop.*



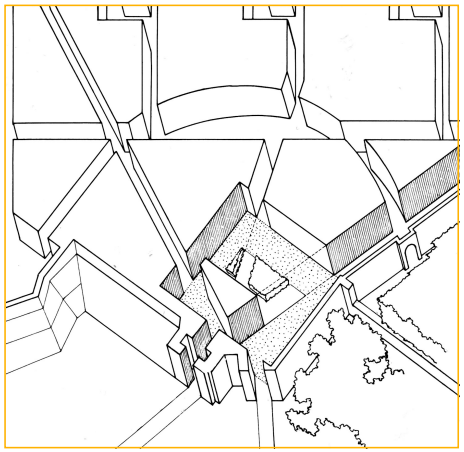
9) *A sequence of urban spaces is also an armature for growth.*



10) *It can generate a gridded field of blocks to the side.*

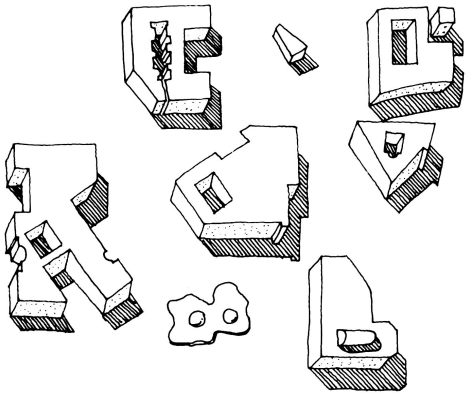


11) *A regular space serves as a stable receptacle terminating a series of influences.*

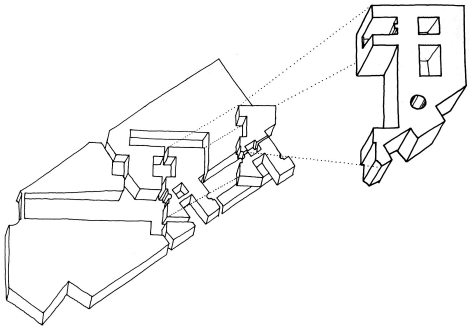


12) *A complex, multiple space acts as an overlapping joint between two fields and generates its own radiating effect back into the texture.*

The **Block** is the principal constituent physical element of the urban field and texture. As such it is not necessarily a constant, repetitive, modular element, but is itself variable requiring flexibility in size, proportion and perimeter configuration (figure 13). The block is generally not discrete, symmetrical or central, but is multiform, inflective, and peripheral (figure 14).



13) *The variety of block configurations and sizes required to form the Aventine field exhibits no uniform repetitive module.*



14) *The block is a constituent fragment of the field.*

The **Block unit** itself is not the nuclear element of the city, but is a composite form made of many discrete subsidiary elements or constituent block units. The typical block, if it is reduced in size to become a single unitary building, will lack the size and adaptability to correspond with external spatial requirements and will disassociate itself from the surrounding texture.

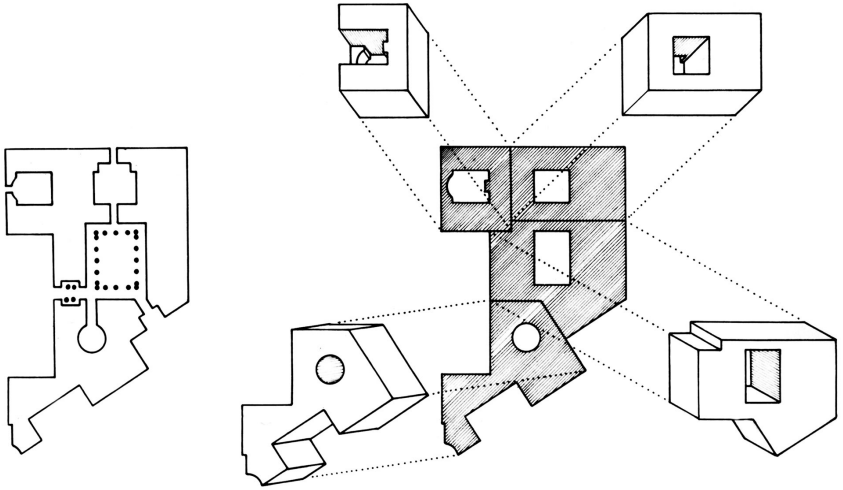
The constituent block unit is the critical element in any urban situation. It is the nuclear constant which stabilizes and counterbalances the peripheral irregularity of the larger block element. The constancy of the block unit is achieved through its definition of a contained inner block space that provides autonomy, structure, and identity in juxtaposition to its associative role as part of a larger group form (figure 15).

The courtyard is the prototypical example of this inner block space, but the French *hotel cour d'honneur*, the English mews, and the private yard of the townhouse, all serve to provide a degree of nuclear stability cushioning the block's external irregularity. It is at the scale of the block unit that the variety of transformations to a traditional form, provide a city's distinct typology. This is the usual extent to which architecture is concerned.

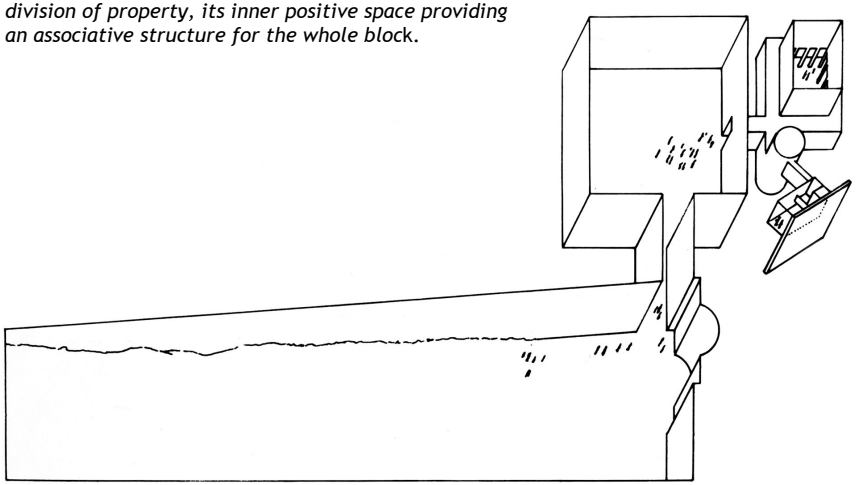
The perception of these combined elements forms the typical urban experience – a linked, sequential variety of spaces which integrate districts and neighborhoods and establish the degrees of public and private realm. The inner block space, acting in a coherent dialogue with the complex fabric of public outer block space, produces the distinctions which frame events, establish place, and provide for the necessary transitions of passage (figure 16). The range of meaning and interpretation associated with these spatial linkages depend on their degree of specificity and articulation.

Strategies and Tactics

The exact formal strategies and tactics available to achieve this urban condition are best articulated in the context of a specific situation. The plan for *Roma Interrotta* provides some examples. On this site, the existing terrain prohibits a unified total design scheme, but a realistic schedule of implementation on any large site also suggests a program of incomplete, juxtaposed developments.



15) *The block is itself a composite group form with an internal world. The block unit results from a logical division of property, its inner positive space providing an associative structure for the whole block.*

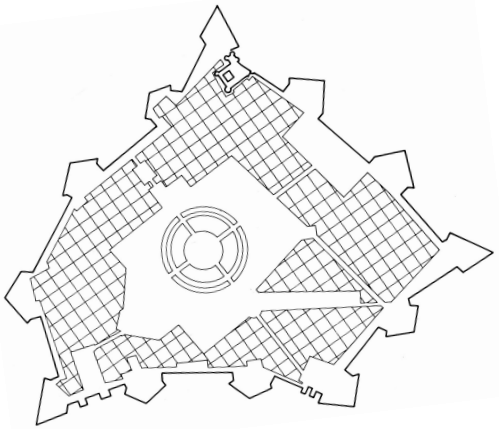


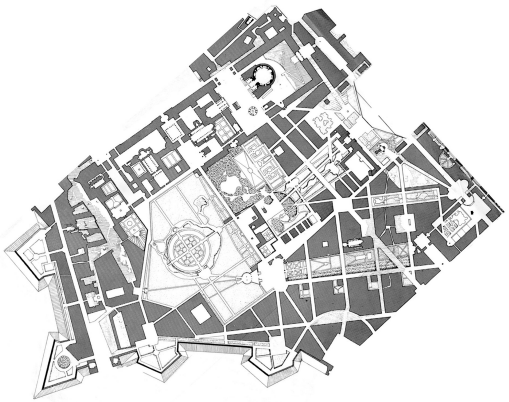
16) *A diagram of the experienced relationship of urban spaces, from public garden into local street, through neighborhood square, into semi-private court, up the stair and into private rooms. Urbanism involves the order of distinctions throughout the entire sequence.*

The Strategy of Fragments

Within the site, each of the four hills represent a separate prototypical structure and narrative: Ideal City, Hill Town, Urban Megastructure, and South Hill Campus.

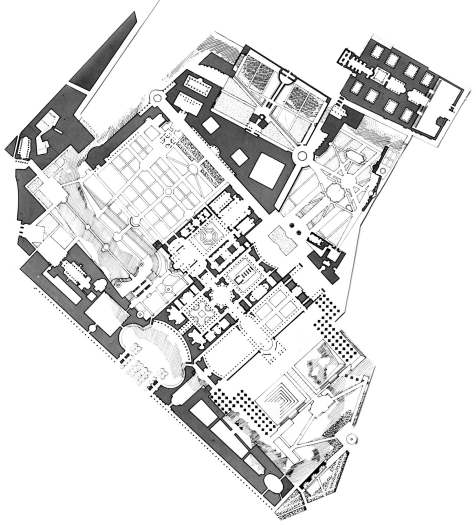
The **Aventine** as an Ideal City (figure 17): its actual plan is a deformation of this, retaining the closed perimeter and open center (figure 18)



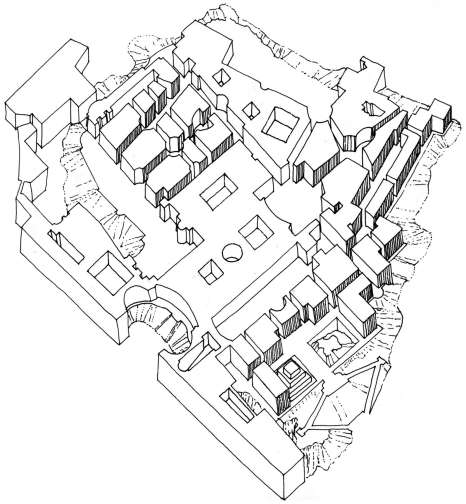


17) 18) The Aventine - Ideal City

The **Palatine** as Urban Megastructure: its figural core stabilizes a variety of edges (figure 19); and adapts to the specific perimeter conditions. The axonometric indicates possible internal growth. The spatial structure of garden parterres solidify into urban blocks, transforming a palace into an elaborate urban texture (figure 20).

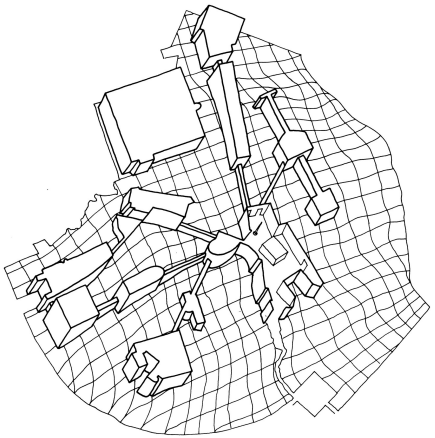


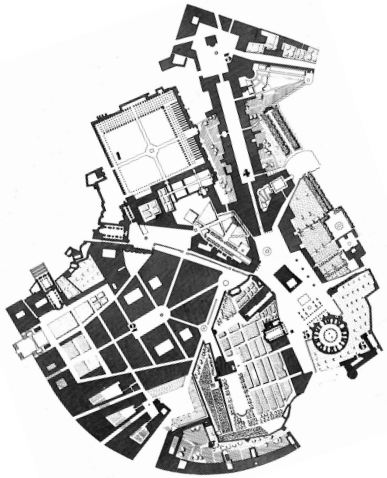
19) The Palatine Plan - An Urban Megastructure - The "T" shaped figure centered on the palace defines the Circus Maximus with two "Nash Terraces".



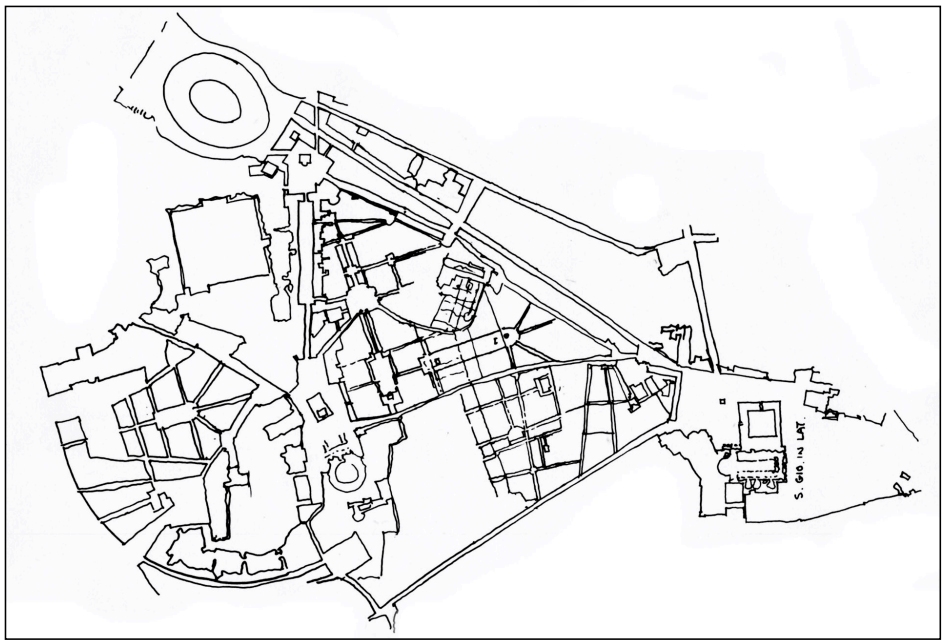
20) The restored Empirical Palace could serve as an armature for urban blocks to co-habit the hilltop.

The **Celio** as a Hill Town at the edge of the Villa Mattei. It forms rationalized spatial sequences linked to a new central piazza at St Stefano Rotondo (figure 21): the actual plan also shows an ancient Roman collision of monumental figures (figure 22). This hill town can extend to a larger triangular field formed with the Coliseum and St John the Lateran (figure 23).



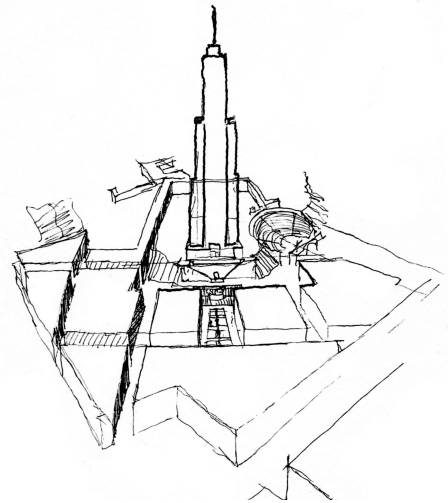


21) 22) The Celio - Hill town

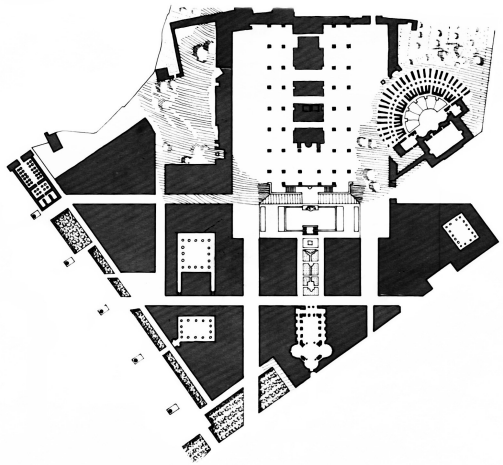


23) The larger triangular field is reinforced by the great arcing road at the bottom of the Celio Hill

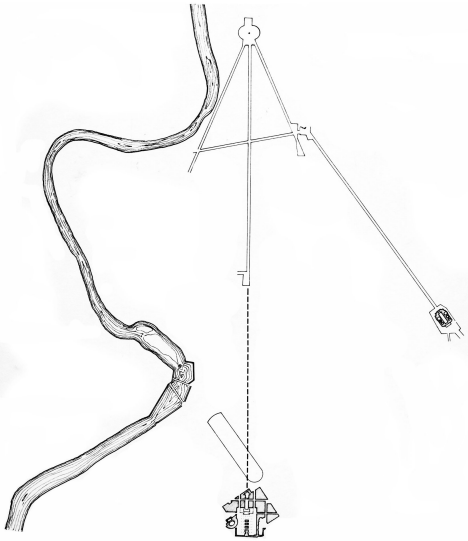
The South Hill Campus: Rockefeller Center in New York is an inverse model implanted in Rome for a comparison of scale. It positions the RCA building to emerge from the plan of a temple (figure 24). The actual plan is a scale transposition of Fifth Avenue, the Ice Skating Rink, and Radio City Music Hall built into the hill as a Roman theater (figure 25). At the larger city scale, the RCA building looms as the ultimate obelisk, visible down the Corso from the Piazza del Popolo (figure 26). In context, the adjacent Baths of Caracalla and the fragmented precinct of New York City enter into a dialogue of juxtaposition (figure 27).



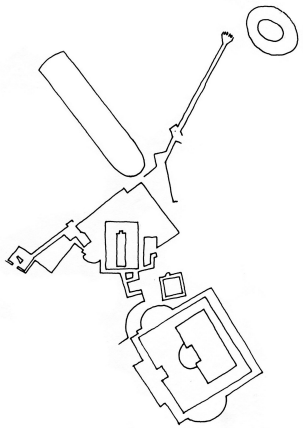
24) The RCA building rises from a temple plan



25) The plan of Rockefeller Center drawn in Nolli format shows the channel garden leading to the skating rink and the RCA building, which when stripped to its steel frame and solid elevator cores, mimics a temple plan. Radio city music hall is shown as a Roman theater.



26) RCA Building, masquerading as a temple plan is placed on axis with with the Piazza del Popolo and the Corso in an imagined symbolic collage of New York's and Rome's common urbanism.



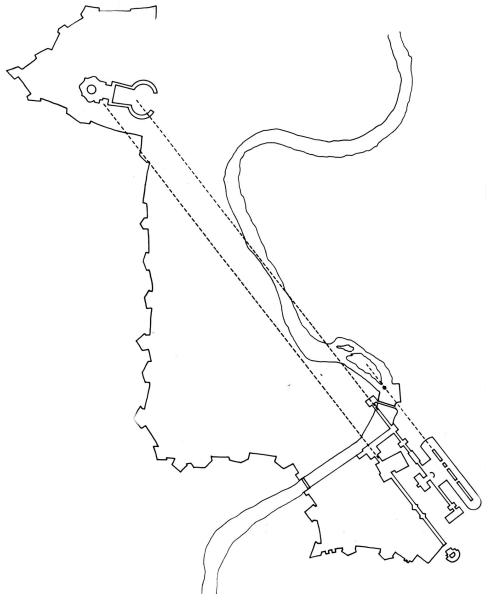
27) Plan of Rockefeller Center district juxtaposed with the mega-forms of the Circus Maximus and the Baths of Caracalla as an indication of scale and size.

The Strategy of Lines

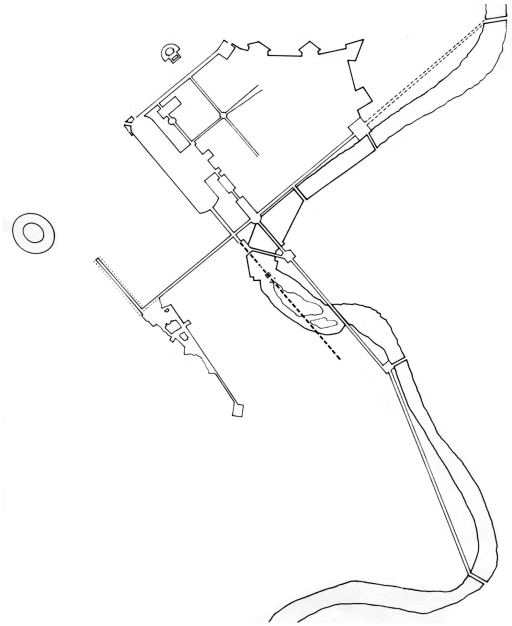
Visual and conceptual links are made beyond the site:

Axes focused on St Peter's run parallel to the Circus Maximus extending visual connections to the Basilica, while the proposed completion of fortifications link the site through Trastevere to the Vatican (figures 28, 29).

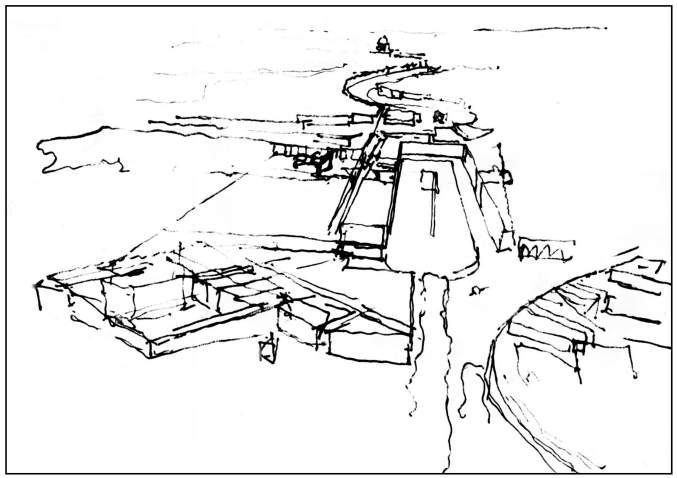
An extension of the Circus Maximus geometry conceptually transforms the Tiber into a right-angle. An axis from the site connects visually to the end of the Via Guilia at the Ponte Sisto (figure 30),while bridges within the site define the river as a series of lagoons.



28) Visual axes from the Circus Maximus to St Peters.



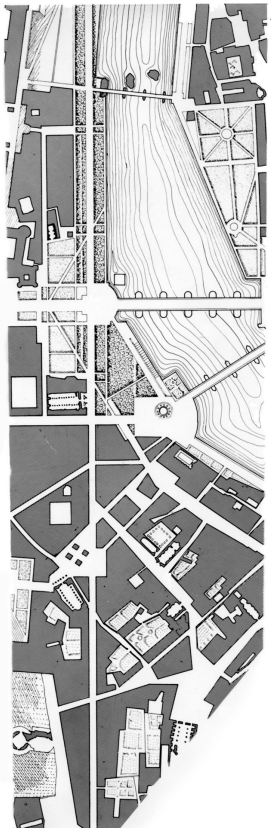
30) Extensions of the Circus Maximus geometry.



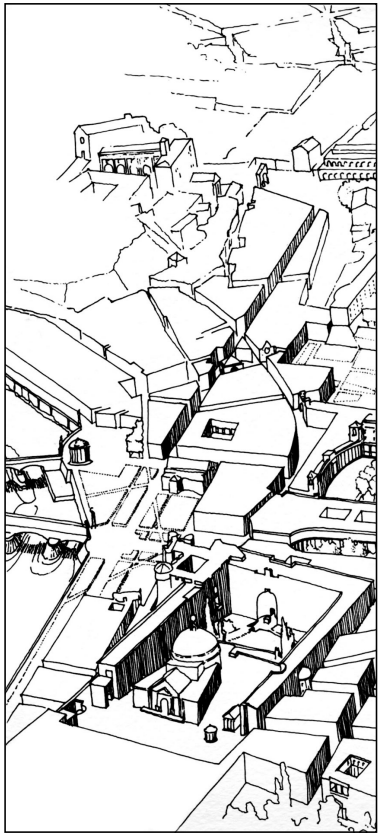
29) View to St Peters from the Circus Maximus.

The Roman Forum: a perpendicular axis connects the Tiber embankment into the Roman Forum and orients the location of the Capitoline Hill (figures 31, 32).

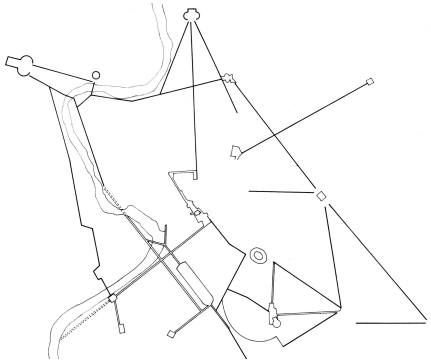
The Roman theme of straight lines from Sixtus the 5th: new lines are introduced within the site sector to complete the larger Roman network of linear connections in the south-west corner (figure 33).



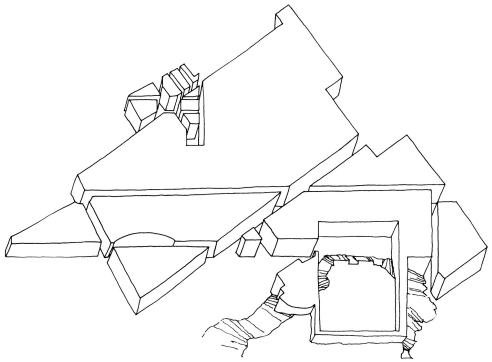
31) Plan of the Tiber embankment road crossing in front of the porch of the medieval church of Santa Maria in Cosmedin



32) View of the Tiber embankment cross axis connecting the Roman Forum and the Curia.



33) Theme of straight lines of Rome.

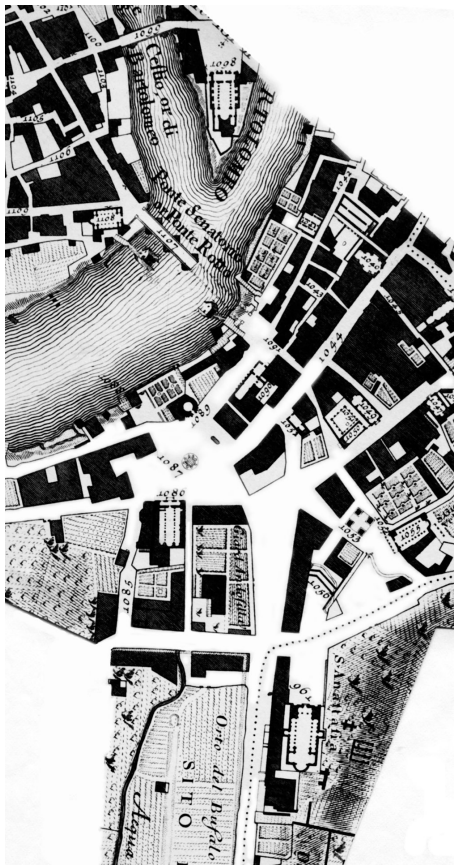


34) Interpenetration of fields - with streets and edges on different orientations.

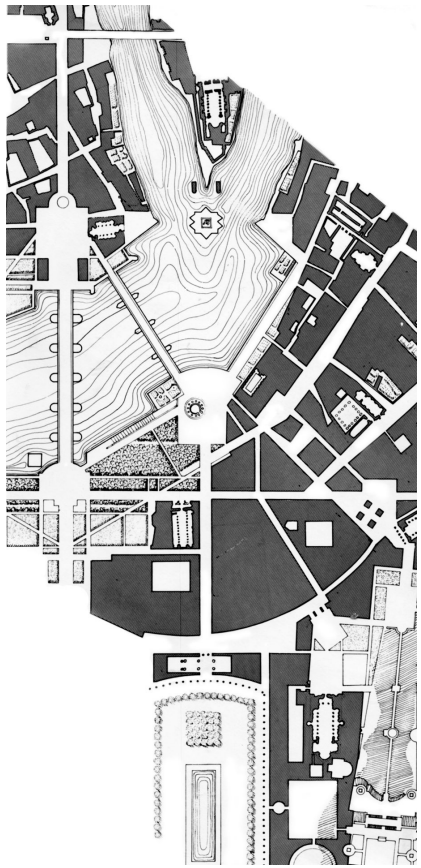
The Tactics of Connections

Within the site, various methods are used to form connections and transitions between the separate pieces.

1. Interpenetration of fields: the overlapping of edges and patterns between fields establishes a multiplicity of relationships and coexistent (figure **34**).
2. Continuity of texture: all continuity with the existing Roman center must be stretched through the narrow bottleneck of the Forum Boarium. The existing urban fabric texture is extended and re-channeled.
3. Geometry of axes: extending the center line of the Circus Maximus reveals new possible orders; a cross axis to the Roman forum, a triangular lagoon in the river bend that focuses on the Tiber Island and makes a split connection between Trastevere and central Rome. (figure **35 -** before), and (figure **36 -** after).



35) Existing plan just north of the Circus Maximus shows bottleneck of disconnected fragments.

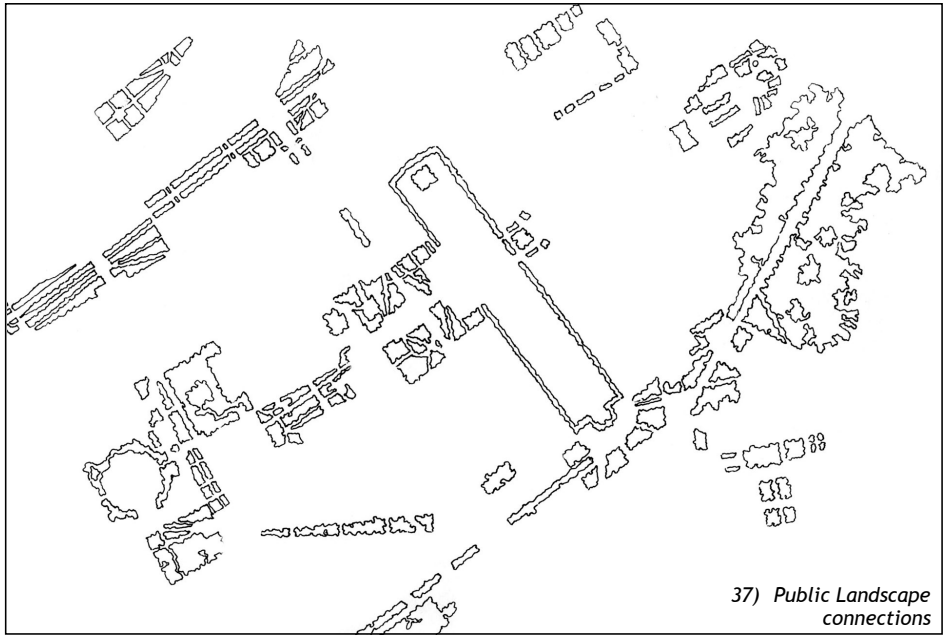


36) Plan of the continuous arc of urban fabric behind Santa Maria in Cosmedin opposite the Tiber Island.

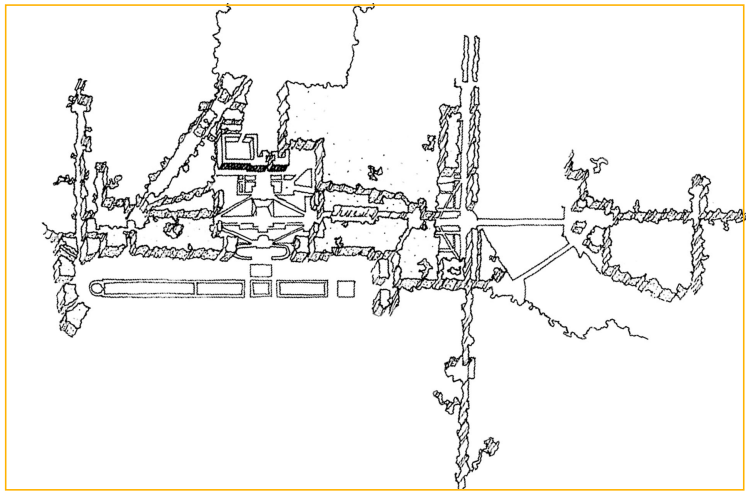
4. Public landscape: the structure between the separate hill fragments is an interstitial network of gardens and trees (figure 37).

5. The French Garden as model: superimposed on the city as continuity, not authority, it becomes a starting point for extensions – space breaks out of the site but retains its local origins. The garden becomes an alternative urban strategy (figure 38).

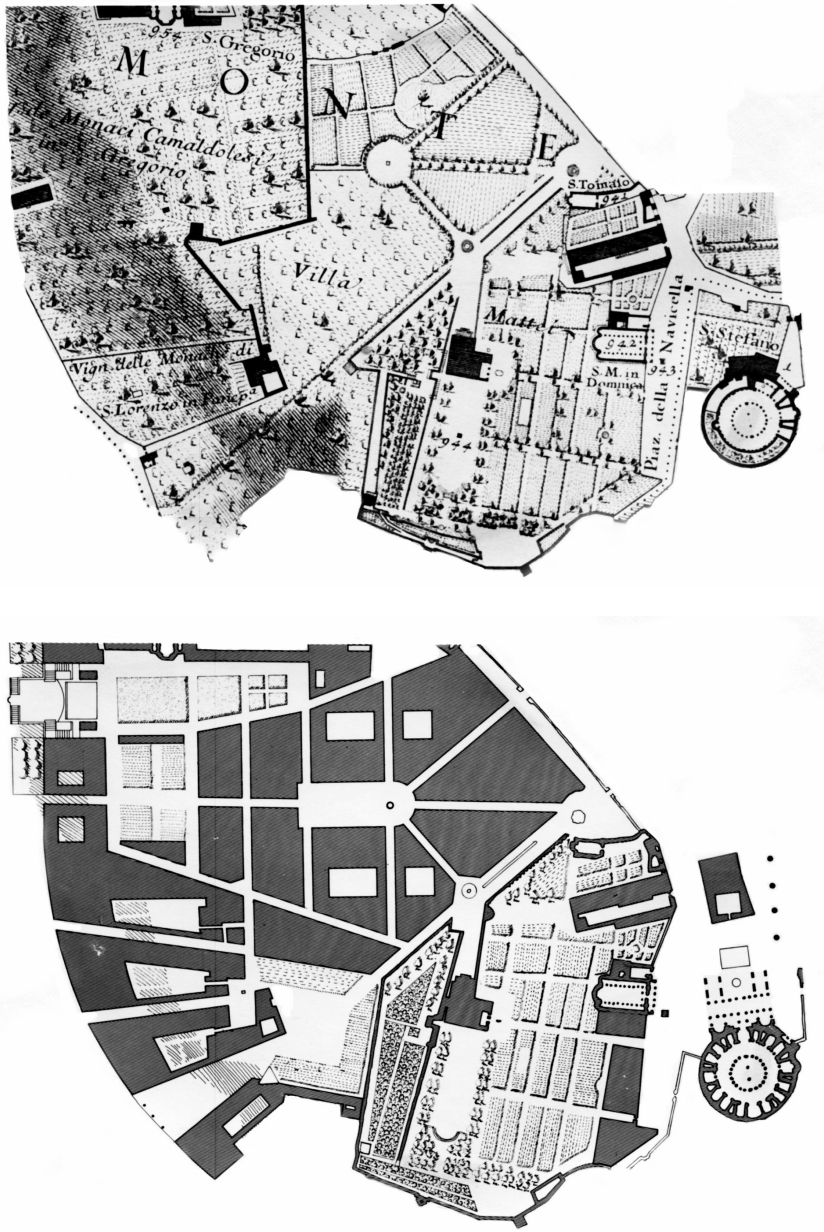
6. The Italian Garden generates texture: the existing gardens of the Villa Mattei provide a pattern for urbanism. Before and after (figure 39); air view (figure 40).



37) Public Landscape connections



38) French Garden planning integrates the Aventine Hill and the Circus Maximus spaces into a unified formal conception.



39) Before and after plans; The Italian Garden as a model for urban form. The two round garden points in front of the Villa Mattei become urban squares in the core for new urban development.

The diagonal downhill path along the Villa walls becomes a road leading to a new public square centered on the existing little church of "S Lorenzo in Panep."

40) Aerial perspective (drawn by SKP 1977)
The urbanized Villa Mattei is in the upper right. At the center, the Circus Maximus is transformed by a cross axis connecting the ancient exedra on the Palatine to align with new gardens of the Aventine. Open on the near side, it is the last bottom parterre of the Aventine Villa. Closed on the far side, it is the foreground to two long "Nash" housing terraces, in an ironic reverse history of classical architecture.