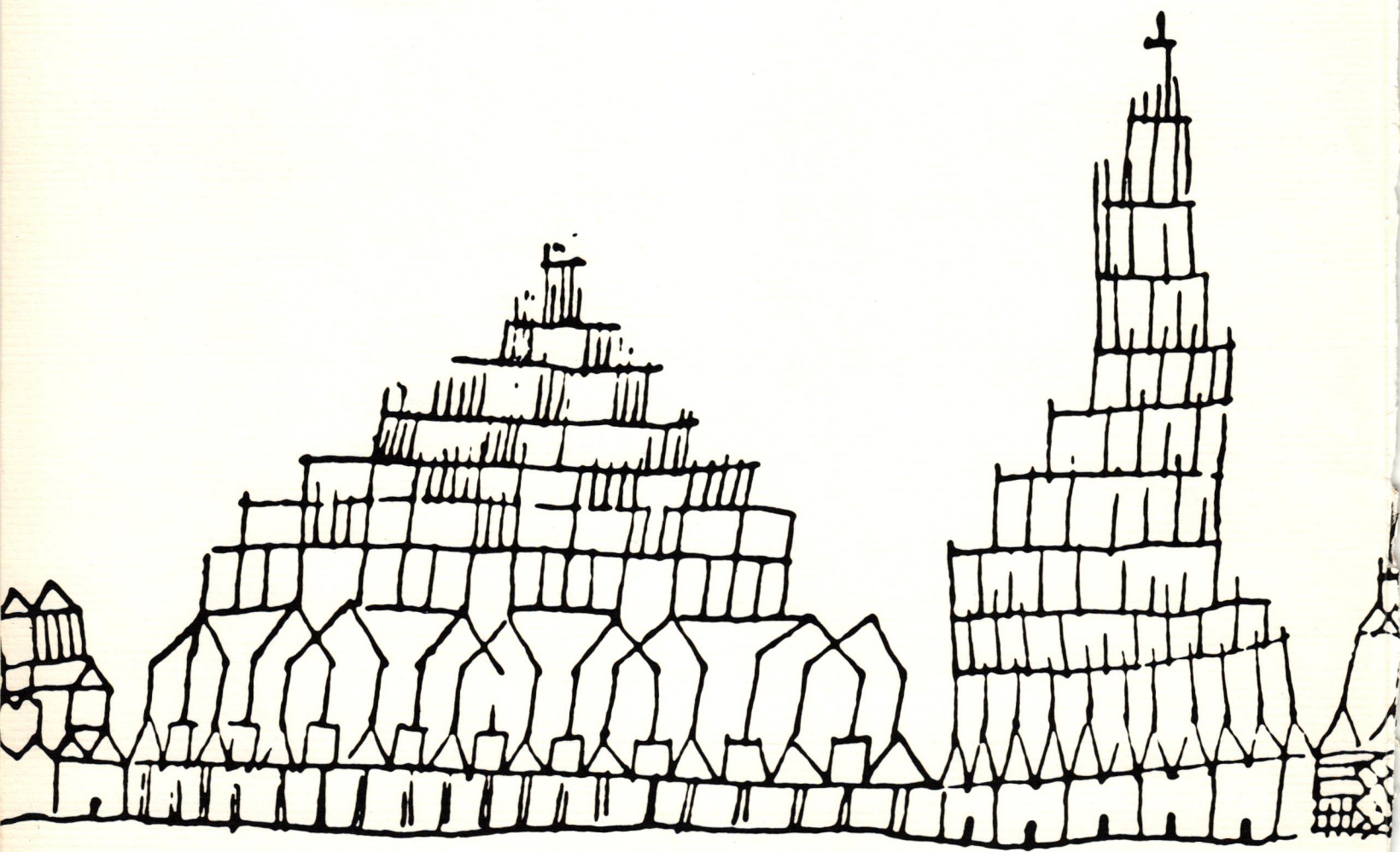


The City, Form and Intent: being a collection of the plans of fifty significant towns and cities all to the scale 1:14400 Richard Saul Wurman and sixty-one students of the School of Design Student Publication of the School of Design® Volume thirteen Numbers one and two North Carolina State of the University of North Carolina at Raleigh, North Carolina 1963



*Future cities are in general also ancient cities.* Le Corbusier



## FOREWORD: Form and Intent

*The city is the supreme expression of a people's cultural level. It is the most imaginative, costly, and substantial demonstration of what men can do together to enrich and ennoble the environment where they pass the brief years of their existence. In its organization of space and social development the city is the difference between civilized man and the cave dweller. The degree to which any society has removed itself from the race's Neolithic past is reflected in the quality of the cities it has built. Art in all its other forms is the work of individuals but a city represents the assembled insights of a whole community which has tried to construct a more sophisticated habitat than nature could provide by blind chance. An appraisal of the kinds of cities people build is an appraisal of themselves, for a city is what they do rather than a pious statement of convictions. It is the achievement of families rather than the vow of lovers. Whatever sense of greatness, regard for beauty, or zest for life a people possess in common is reflected in the ways they have arranged their immediate habitat to match their enthusiasms. Our cities—the full cross section of them—show what we are as people.*

Edward Higbee

The city is man's activities in density.

The city is the greatest invention of man, and as it represents the density of man's activities it represents the birthplace of all other of man's innovations. No invention of man has more molded his life than the city and all other inventions have come to fruition because of this gathering of people and exchange of ideas.

The basic ingredient of a building or a city, no matter how simple or complex, is the making and serving of its space and spaces. Indeed this is the very reason for its being. This fundamental principle governs the size, disposition and even the existence of all space; and this principle holds true as a basic motivating idea in all scales of projects. In some form or other, this represents the *intention* of architecture and urban design.

A major determinant of the city form is movement—pedestrian, vehicular, rail. It is between movement patterns that everything grows and at its junctions that things sprout. Such patterns may create position for many things. This is seemingly true of cities past as well as the cities of today.

One of the more apparent results of this study is a vocabulary. One would like to think, however, that the result is not the vocabulary itself, but where thoughts might go as the result of this vocabulary.

A golden thread in the healthy existence of cities is the degree to which the beginnings of a particular city are apparent. It is the recognition of this initial generating force and its hard preservation that gives body and depth to the idea of city. This must be kept in the forefront of one's mind in today's battle to limit city fusion.

An important facet of this study has been the idea of comparison. Comparison not so much in the obvious way of city to city, but the ability to compare by the adoption of a visual language that allows for comparison.

The language of architecture is a visual one. The development of this language in depth rather than complexity is normally of great concern in projects of large scope. Presently, it is of even greater concern,



because the frequency of projects involved with vast numbers of buildings and complicated services is accelerating.

Projects in urban design have been presented in a manner which belies the principles which underly their making. To be understood, enlarged upon, and recognized for other than the finality of design decisions they seem to represent, it is most necessary to develop a new visual language for urban design which has as its basic form of presentation a manifestation of intention.

In an endeavor such as city planning where an enormous amount of time, capital and brains are expended, one is surprised to discover how limited is the knowledgeable communication. A group of city planners generally adopt as means of communication their own dialect rather than aspiring toward a language which would be general in application and understanding. I suggest, as a worthwhile project, an exhaustive analysis of these many dialects in order to develop—invent if you will—a new visual language.

The basis of this study is non-conclusionary, that is to say that it is presented to evoke rather than state a conclusion. The list of cities is simply those locations that I am familiar with and that to me give forth an immediate positive image. In fact one might say that a concise image represents a clarity of intention, and that all significant buildings, cities and ideas have as one of their attributes, concise statement.

At the beginning this was a three-week problem given to a second year studio class in architecture for the purpose of familiarizing them with the possibilities in the relationships of buildings, movement patterns, entrances, limits, topography and growth. It was largely up to the individual student to decide upon the aspect of the cities he chose to study, and thus is manifest in the plates a somewhat varied emphasis of analysis.

We had our difficulties in procuring satisfactory maps of the towns and cities with the necessary scale data. There were several cities, perhaps 15 in our initial list, on which it was impossible to find adequate source material. The cross section of our total list perhaps suffers from this fact.

Three of the places chosen for this study and aspects of two other places perhaps need some other explanation. The three are the Pyramid complex at Gizeh, Versailles and the project town of Hook. The first was chosen as a city of the dead; the second, for its comparative relationship of vista, its geometric relationship to Karlsruhe and as a teaser for a future study of great gardens and landscapes; the third, I chose to study simply because of the most thorough study of this not-to-be-built new town; I am sure if it were built it would need no other justification. The aspects studied of two other cities might be clarified. Philadelphia's study is based on its fine comprehensive plan and Athens' study is based on the historical development of its walls, shown here in composite.

The existence of this publication is the result of the spirit of this school and its students.

I hope the students who have labored deeply have already received their special commendation in the form of knowledge gained.

RICHARD SAUL WURMAN



## INTRODUCTION: The Enjoyment of Cities

A city, considered culturally, is a state of mind. It is the locus of the social posture we call *urbanity*, compounded of local usages in speech, dress, gesture and belief as well as universal, cultural pursuits in the arts, sciences and commerce. Urbanity has a material sustainer, the civic organism, which is the physical pattern printed by the social relationships people establish in a particular place. Some places are resilient and mark their own character, as at Assisi, Athens, Avila, Pergamum and San Gimignano. Others receive the geometry of a Timgad, Washington or Aigues Mortes without distorting it. But most cities, and all the great ones, enable nature or geometry to come and go, to dominate in some areas but not in others. Any plan that suggests a different organism is either a jungle and hayfield, not a city, or a rigid procrustean bed.

One of the hours I enjoyed most during my lecture visit at Raleigh's School of Design in January, 1963, was spent with Professor Richard Wurman's students who discussed their investigations into *The City, Form and Intent*. With rare insight (coupled with prodigious compilation of fact and staggering work upon models), students had been led to the heart of urban design: to plant society's institutions (family, education, commerce, industry, religion, government—in all their manifold diversity) upon a terrain at those points of interchange where systems of transportation and communication arrive at natural interruptions or designed connections, achieving, withal, order, first in the chief skeleton of spaces and arteries, then in the lesser interstices so that public and private ways, barriers and connectors, clustered districts, nodal junctures and landmarks will build their scale so as to maximize the opportunities for directed and accidental exchange of ideas, information, goods and services among people of diverse persuasions!

No wholly perfect city exists, and none ever existed. At various times, some cities have come close to perfection. London in the eighteenth century, when its residential squares and terraces, parks, markets, churches and clubs had not yet been obscured by urban decay, commercial gargantuanism, rail and auto congestion, and the mosaic of ugly housing and factories, seems better than it is now. Cities are not static things. Before one pattern of settlement crystallizes, new constellations of space and mass emerge. The urban process of demolition, construction and changing occupancy prevents the city from being a work of art as manageable as a poem, a painting, a building or a symphony. That is why our models and diagrams are students' abstractions, an approximate and crude fix charted at an arbitrary time.

Still, a city regarded as physical art offers many levels of enjoyment. Intellectual satisfactions lie in knowing a city in process, sensing its tempo as it awakens in the morning, beds down at night; in knowing the complex financial exchange at New York; in following the movement of ship, train and truck in New Orleans; in studying paintings in the Prado or Rijksmuseum; in witnessing opera at La Scala; in studying at Oxford or Cambridge; in seeking fine wines and food in Paris; in following international destiny at the United Nations Headquarters.

For men, always in search of their own uniqueness and in quest of allegiance elsewhere, a city affords opportunities for both lonely retreat and gregarious membership. There are places to witness spectacles, organized annual ones like the Palio at Siena and the Mardi Gras at New Orleans and daily ones like the mass at St. Peter's and the changing of guards at Buckingham Palace, besides the incidental pageantry provided by gondolas in Venice and the warping of a ship into LeHavre. A city offers a rich harvest of fascinating responses to man's use of the days he is given on earth.

Memory also serves us. Part of an educated delight in cities lies in repeopleing the Piazza della Signoria at the moment Savonarola climbed his pyre. We recall the Hippodrome, long buried, where Byzantium's Justinian and his crafty Theodora pitted bears and gladiators. A romantic sentiment places a Juliet upon each balcony in Verona. History marks the door where Luther nailed his thesis, cuts the path Christ trod to Calvary. The intellect loves history, and even the newest city is not without memories, sometimes of heroism.

By far the most immediate appeal of cities arrives through the senses, particularly sight. The eye records



strong images: nun's hats spread like windmills before the west front of Amiens Cathedral; vegetables at Les Halles in Paris; searchlights playing above St. Paul's in wartime London; Manhattan under a full moon seen from the air over the Hudson; the streets of licensed bordellos in Antwerp; the thousand-foot drop over stone terraces from the Inca's Machu Picchu.

A sophisticated eye records such sights as parts of a greater urban vessel, the network of spaces. There are broad allees leading to distant monuments, as at Paris; there are large, enclosed plazas like the court in the Ommayad Mosque at Damascus. The pattern of space and enclosure, of restriction and invitation to movement, is the source of pleasure or displeasure we find in cities.

Special visual attention is drawn to critical points: to the gateways, such as ports, stations, tunnels, bridges, walls, interchanges—whether we emerge in the teeming subterranean market under Pennsylvania Station or vault over the Golden Gate into San Francisco. Approached from the north Philadelphia draws us over rustic drives along Wissahickon Creek and the Schuylkill River to the Art Museum whence a formal boulevard with classical buildings flies like an arrow diagonally across the grid to the City Hall at the heart of the City. The skylines of cities are distinctive, and the memorable ones like New York's Battery, Florence's from the Piazzetta Michelangelo, or Istanbul's dome-crowned profile, are indelible. What one sees in its spaces, gateways, skylines, groundlines and waterlines forms the theater where a city's people act out their special urbanity.

Cities also have distinctive sounds. Now, noisy motor scooters serenade Rome where Baroque fountains splash and, formerly, sacred geese honked on the Capitoline Hill. Boats complain as they ply the fog-shrouded Thames. Cities have different tongues, so we know when we reach Brooklyn, Charleston, or Quebec. We recall muezzins' echoing each other from minarets throughout Istanbul, the auctioneer's babble at Greenville, priests' chanting in Burgos' Cathedral, impetuous threats of jostling rickshaw boys in Hongkong, the primeval silence of burdened porters climbing hills in Cuzco.

Cities have distinctive smells and touches. The acrid pall that hangs over Hoboken has a trenchant power of recall, as have the odors of fish on Commonwealth Pier at Boston, or the fragrance of Viennese gardens at Schonbrunn. Touch recalls the dampness of Munich's churches, the polished toe of St. Peter's statue in the Vatican, the cobblestones of Antwerp, brick herringbone walks of Boston, worn steps at Mont St. Michele, and those memories are part of the aesthetic enjoyment of cities.

To have a fine city today, people must first want one. Luckily, Americans have fouled their suburban dream, and we now have an opportunity to recapture the city. The major restraint against good city building lies in myths about the purpose for a city and the consequent dearth of images for a well-organized, satisfying city. Too few believe that dense, focal aggregations are essential socially and politically. Too few understand that only a linear, peripheral transportation system linked to connecting interior systems will provide the spatial and structural organizations required for mobility of people, goods and services among institutions. Almost no one advocates mobility based upon many types of communication (face-to-face as well as electronic) and many types of transportation (pedestrian, mass transport, and automobile), each moving in specialized, segregated paths. Few argue that segregation requires us to integrate at interchanges, where architecture will enable directions, speeds, and methods of conveyance to be exchanged without interrupting either rest or flow. We build without forcing the segregated paths, interchanges and garages to establish a meaningful order and scale for the city.

That we need a city used as a forum, each day's newspaper proves. With rare exceptions, no large city has had a reform movement to improve its total cultural and civic life in more than sixty years. The city so fortunate as to harbor a university takes no cues from the campus. Yet, the shaping of urban environment is the biggest challenge to our political and cultural future. For that reason the work of Professor Wurman's class is remarkable: the scale of architects' responsibility is, in fact, nothing short of the city itself.

ALBERT BUSH-BROWN



#### PREFACE: Editorial

During its thirteen years of publishing, the *Student Publication of the School of Design* has established a record of inquiry, analysis and commentary on all aspects of design. Past issues have dealt with matters of philosophical, artistical or technical interest. More often than not, the *Student Publication* has reflected the opinions, ideas and expressions of professional men of learning.

In this issue the *Student Publication* deals entirely with work of students of the School of Design. Originally given as a second year class problem, this project attracted immediately the attention of the general student body. Thanks to the guidance of Richard Saul Wurman and the continued efforts of Reyhan Tansal, student co-ordinator, willing hands of all five years have helped towards the completion of this project. This in itself constitutes a great achievement; much the better, if it is crowned with such outstanding results, as we are certain the plates of models and drawings of cities are.

The list of people contributing generously in time, advice and help is varied and not restricted to this campus alone. Out of the many, we wish to thank especially Dean Henry L. Kamphoefner for his untiring efforts to be of help. The secretarial staff of the School of Design deserves to be mentioned for its constant help. Without Harrye Lyons and her staff of librarians this issue could not have been done, they have done a seemingly hopeless job well and have our sincerest gratitude. For advice and help generously given we thank Dorothy Wurman and Gene Feldman. Ralph Mills and Eleanor Blanchard of the Department of Visual Aids went out of their way to make this issue successful.

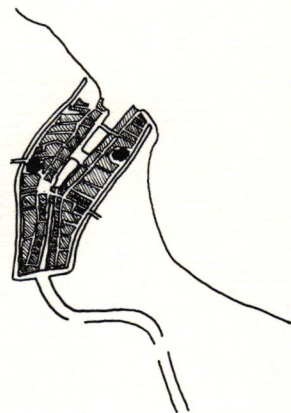
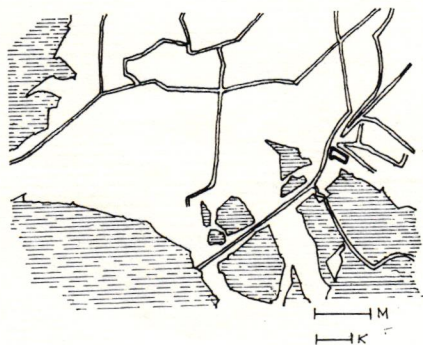
JOHN PHILLIP REUER  
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## LIST OF STUDENTS

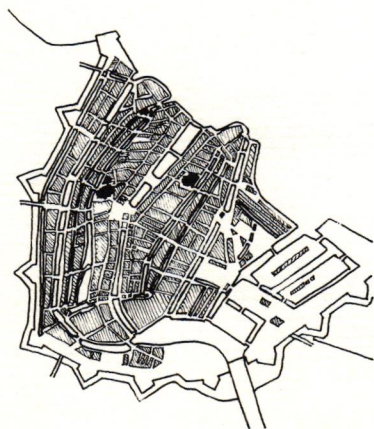
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 George Andreve: KARLSRUHE  
 L. B. Askew: Assister  
 Pete Bochenek: Assister  
 Robert Bryan: Assister  
 Robert Burns: *Chicken Itza*  
 Jack Byars: Assister  
 Alexander Carter: *Chartres, Carcassonne, San Gimignano, Siena*  
 David Carter: Assister  
 Alan Charin: ROME  
 Lee Cattaneo: ANGKOR, PYRAMID COMPLEX  
 Marshall Caudle: MILETUS, MONTAGNA, PORTOFINO, PRIENE, SAN GIMIGNANO,  
 SAVANNAH  
 Marvin Collins: Assister  
 Joseph Courter: ROME, VERSAILLES; *Versailles-Washington-Paris*  
 Joseph Dixon: Assister  
 William Doggett: *Lubeck*  
 Leo D'Aleo: *Palmanova and four Ideal Cities; World Map*  
 Randolph Ellis: Assister  
 Scott Garner: MOSCOW, SIENA  
 Howard Garriss: *Savannah*  
 Gary Giles: PARIS  
 Steve Griffin: Assister  
 Edwin Harris: *Assisi, Mont-Saint Michel, Venice*  
 Kenneth Haggard: MONTE ALBAN  
 William Hemphill: Assister  
 Frank Hough PEKING, TIKAL, WASHINGTON; *Peking*  
 Woodrow Jones: *Angkor, Paris*  
 Herbert Korte: AMSTERDAM, TIMGAD  
 Michael Lawing: Assister  
 Nick Leonard: PRIENE, SAN GIMIGNANO  
 Ron Lipsius: BABYLON, CARCASSONNE, LUBECK, MILETUS, WASHINGTON  
 Noven Mason: AMSTERDAM, BERN, MIDDELBURG, PALMANOVA, SABBIONETA,  
 VERSAILLES, *Sabbioneta*  
 Charles McMurray: Research, Captions  
 Gerald McVicker: Amsterdam, Moscow, Philadelphia, Canberra  
 Joseph Nassif: *Aigues, Mortes, Brugge, Middleburg*  
 James Newsom: Assister; HOOK STUDY  
 Wayland Plaster: Assister  
 Morris Parker: Assister  
 James Posey: MACHU PICCHU, PEKING; *Machu Picchu*  
 Jay Randle: PARIS; *Chicago, Paris, Philadelphia*  
 Robert Rankin: *New York, Washington*  
 Gerrard Raymond: PHILADELPHIA  
 James Ross: AVILA, CHANDIGARH, PARIS, PYRAMID COMPLEX, ROME; Assister  
 Graham Rouse: Assister  
 William Sears: AIGUES MORTES, ASSISI, CHICHEN ITZA, HOOK STUDY  
 KRISTIANSAND, LUCCA, MONT-SAINT MICHEL; *Hook*  
 Stephen Setzer: Assister  
 Eric Schliander: WASHINGTON, SAARLOUIS  
 Phillip Shive: *Philadelphia, Rome, Washington*  
 Robert Sieburg: Assister  
 Douglas Stott: NEW YORK  
 Keller Smith: Assister  
 Ashley Spearman: Assister; PARIS  
 David Surbeck: ANGKOR, LUBECK, PERGAMUM, PERSEPOLIS, POMPEII, VENICE  
 Reyhan Tansal: Student Co-ordinator; AVILA, ATHINAI, BRUGGE, CAMBRIDGE,  
 CHANDIGARH, GRANADA, NORDLINGEN; *Athinai, Hook-Study*  
 Avila, Montagnana  
 Ronald Thompson: Assister  
 Yates Tilson: Assister  
 John Westbrook: Assister  
 William Wachtel: Assister  
 Frank Williams: *Chandigarh, Brasilia*  
 Robert Youngman: ASSISI

Student: MODELS; *Drawings*

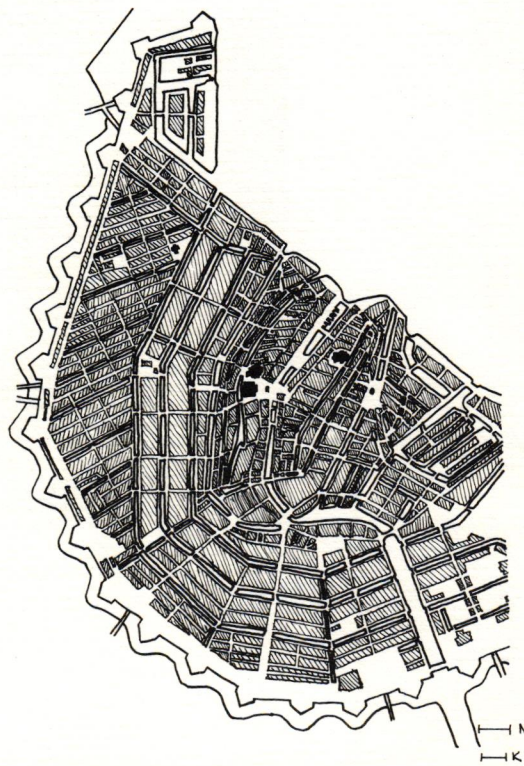


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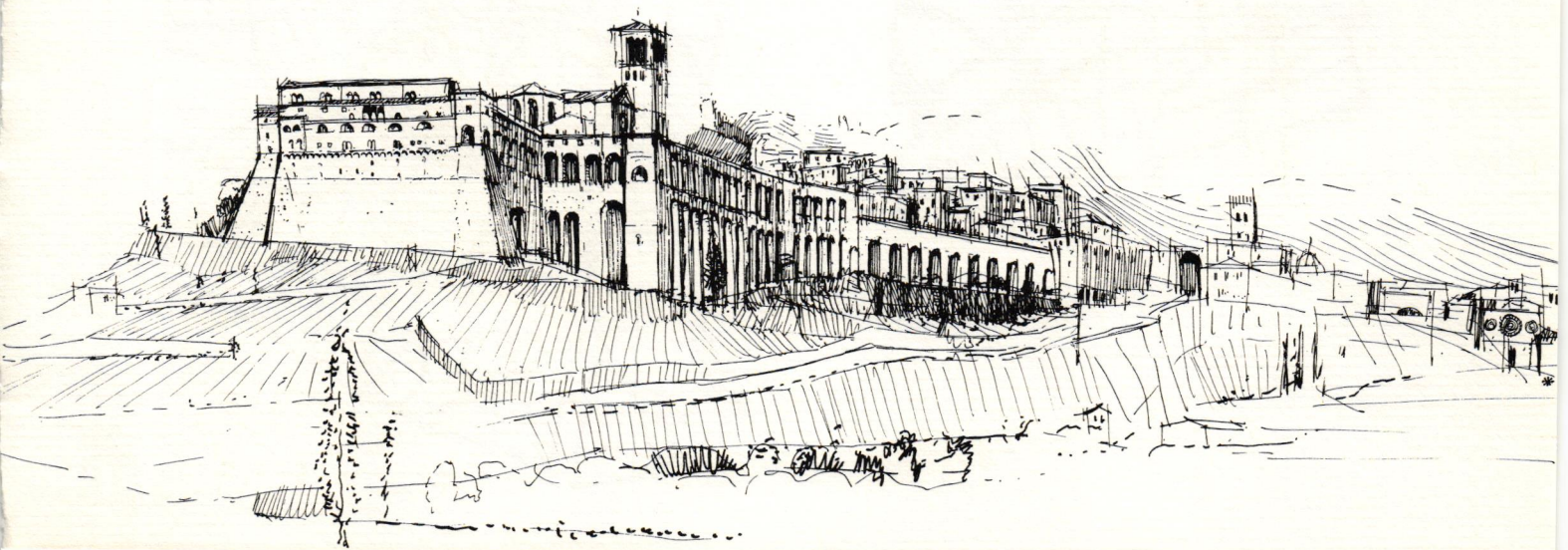
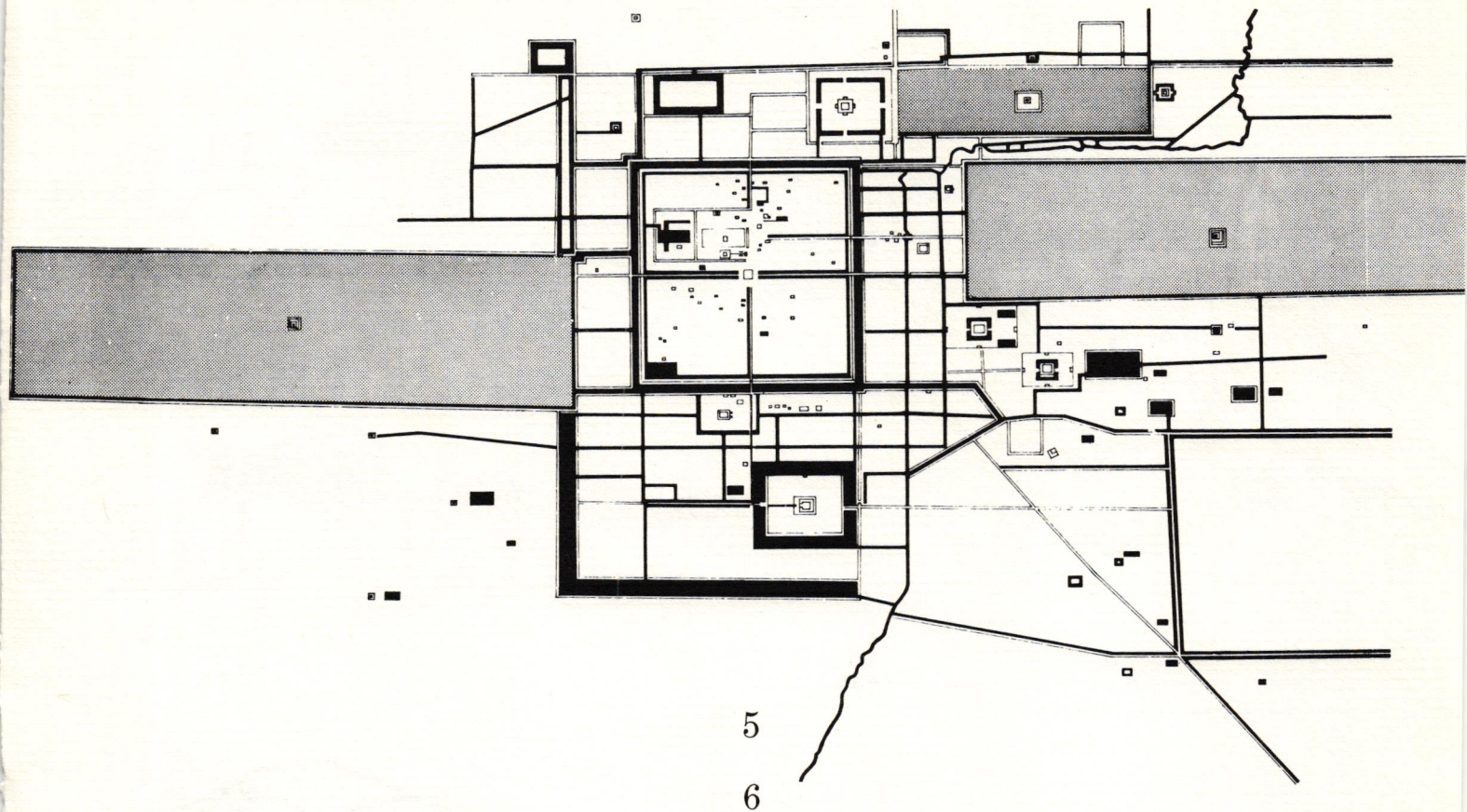
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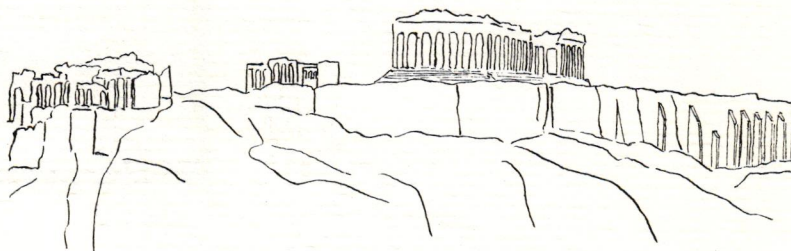
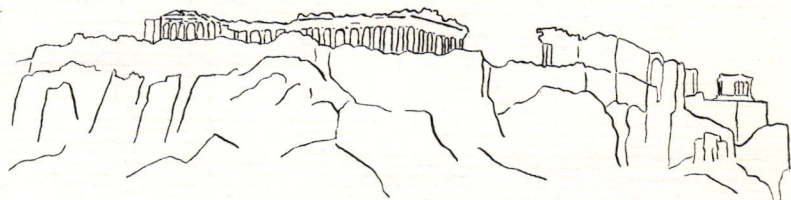
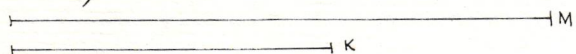
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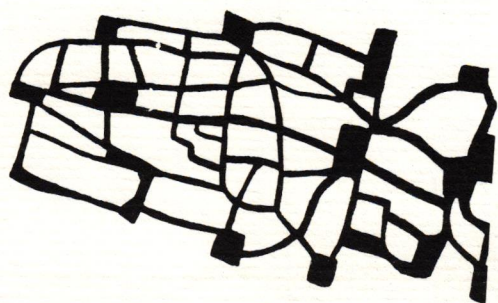




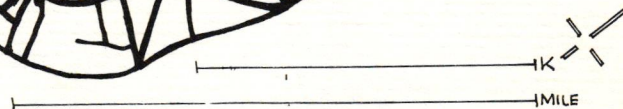




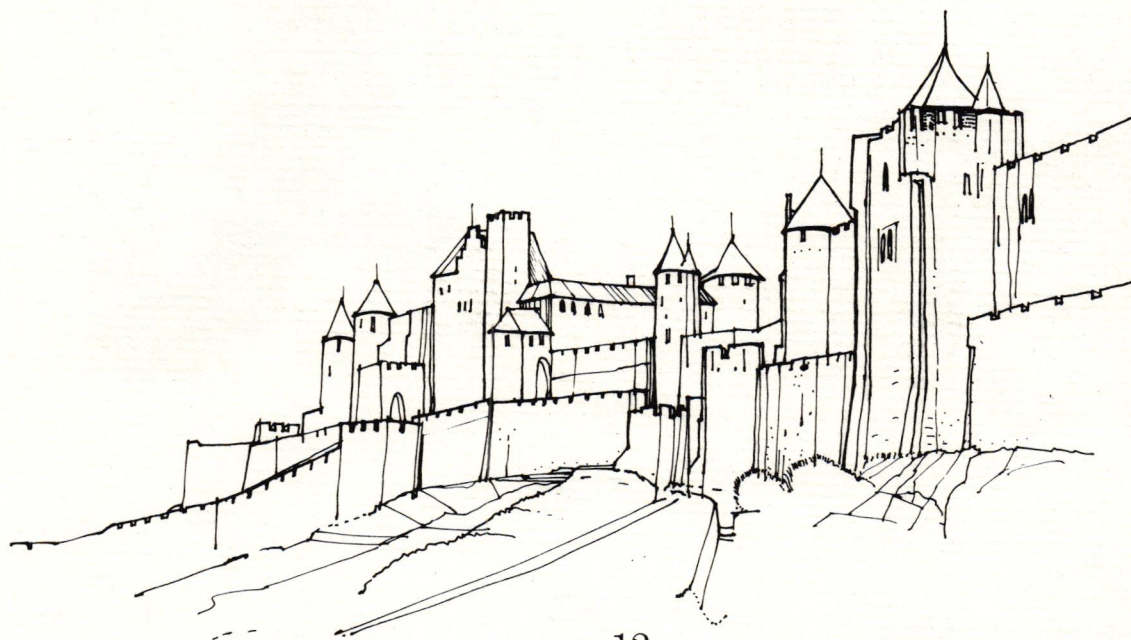
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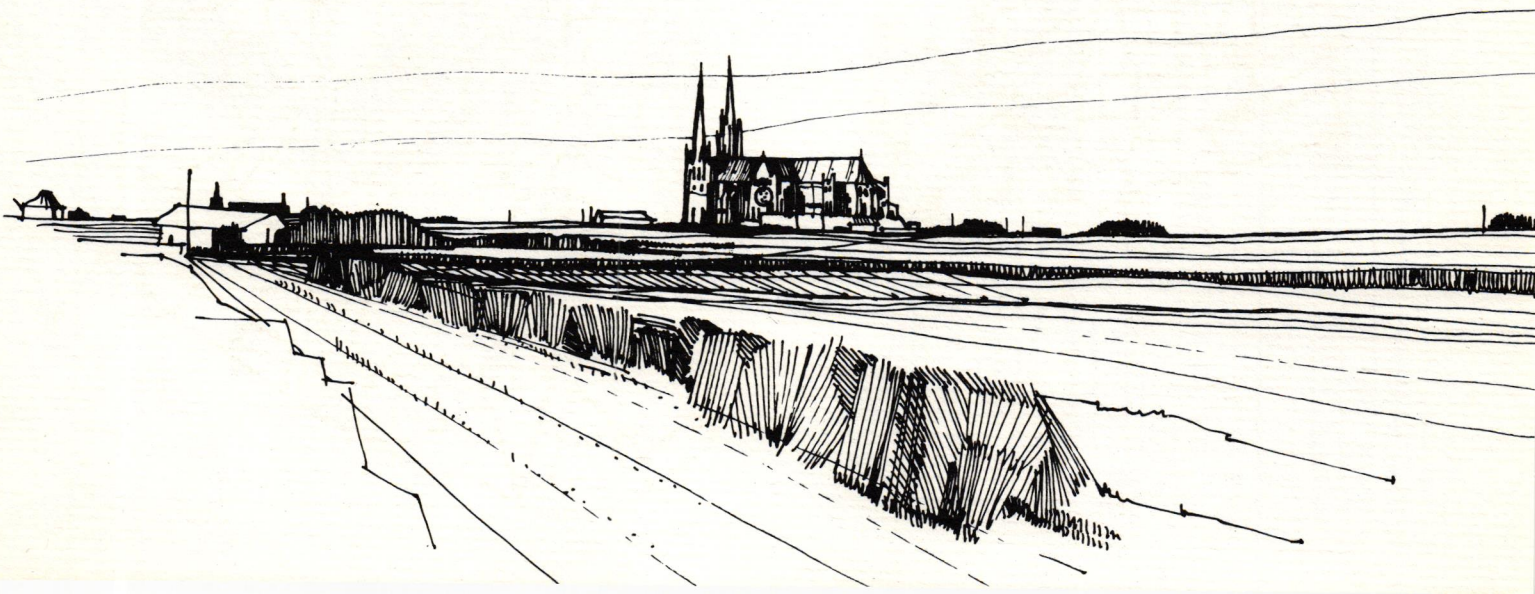




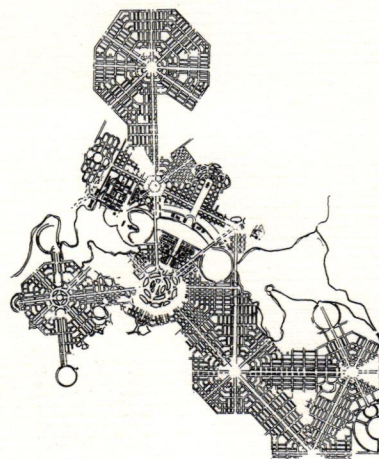
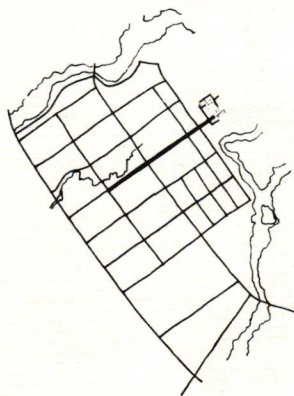


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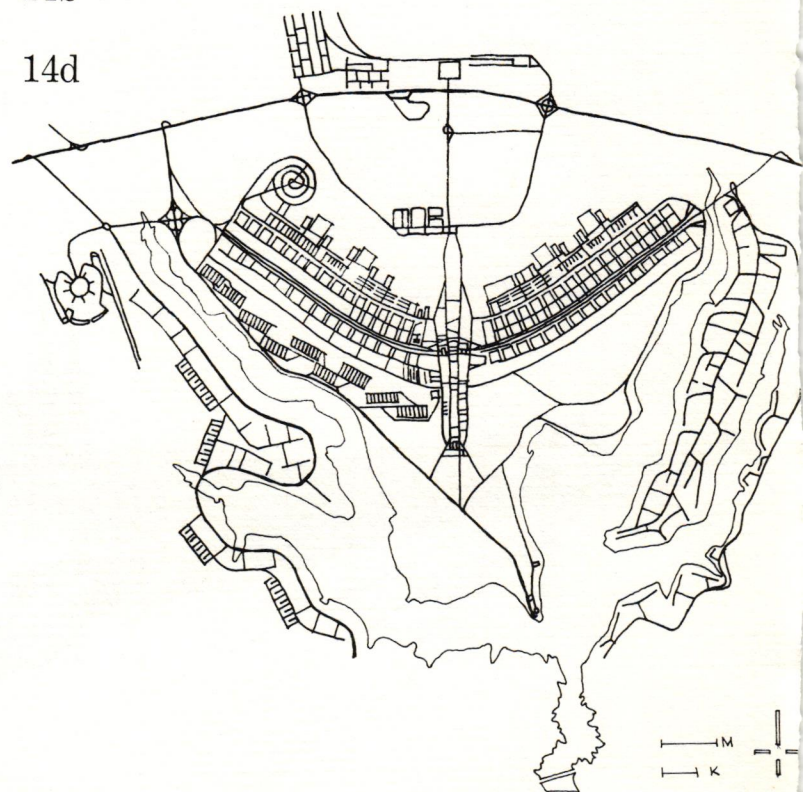
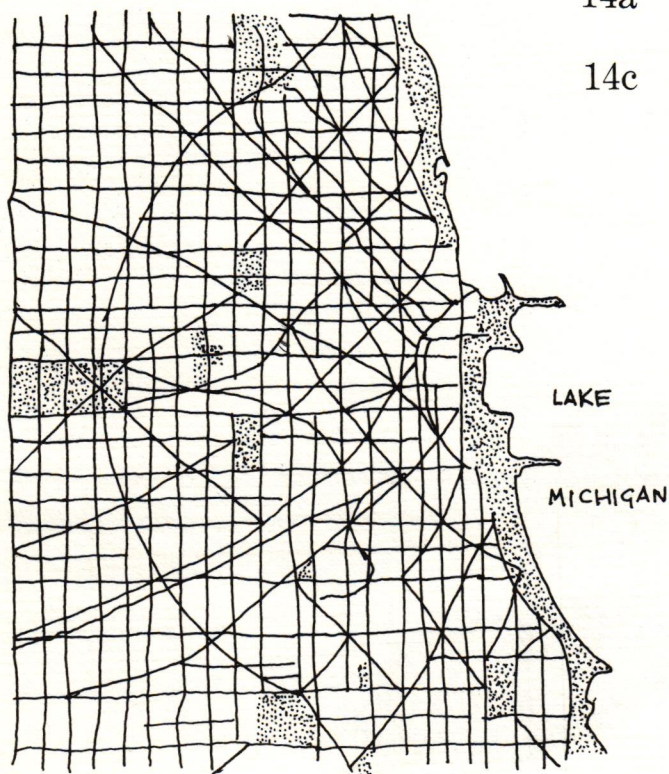




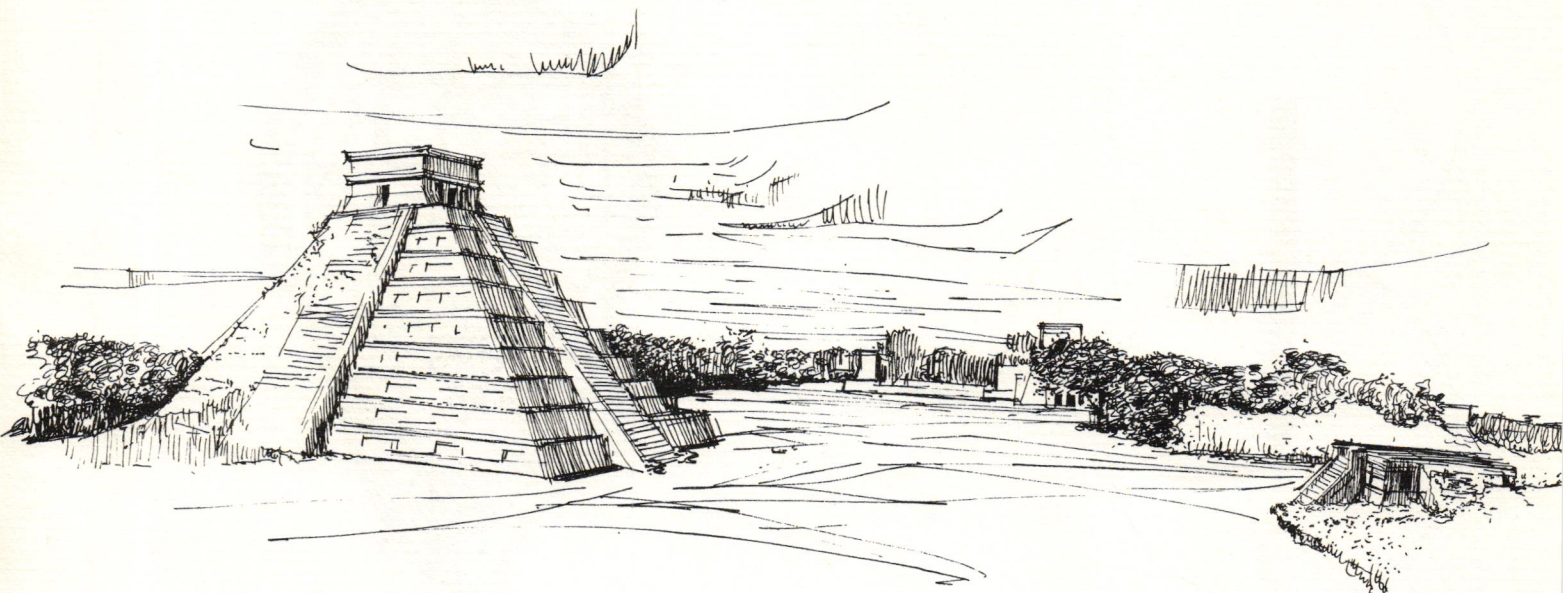


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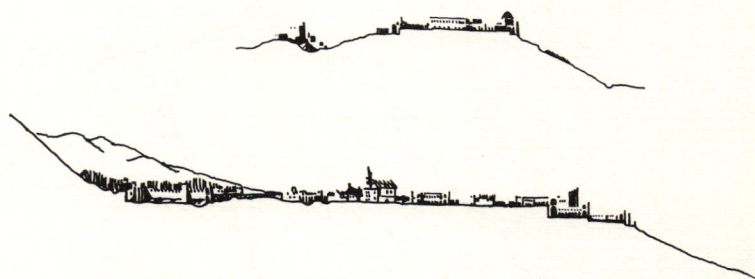
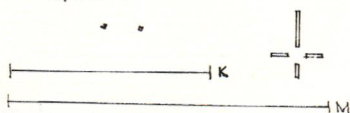


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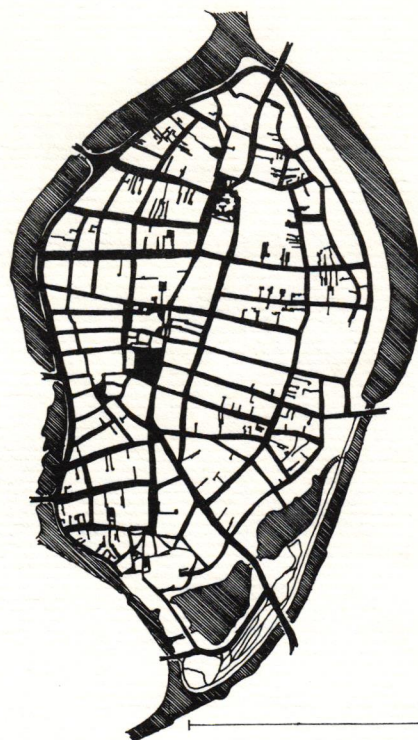
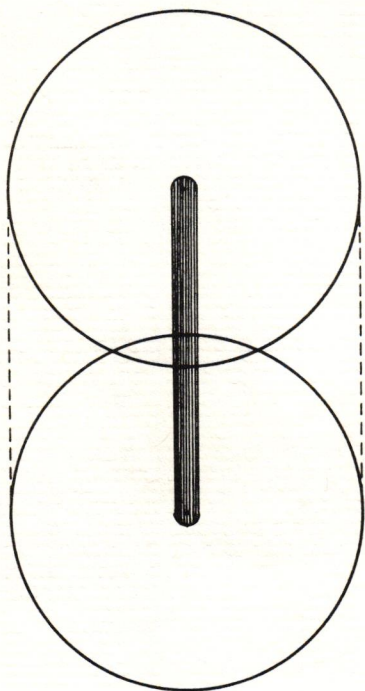
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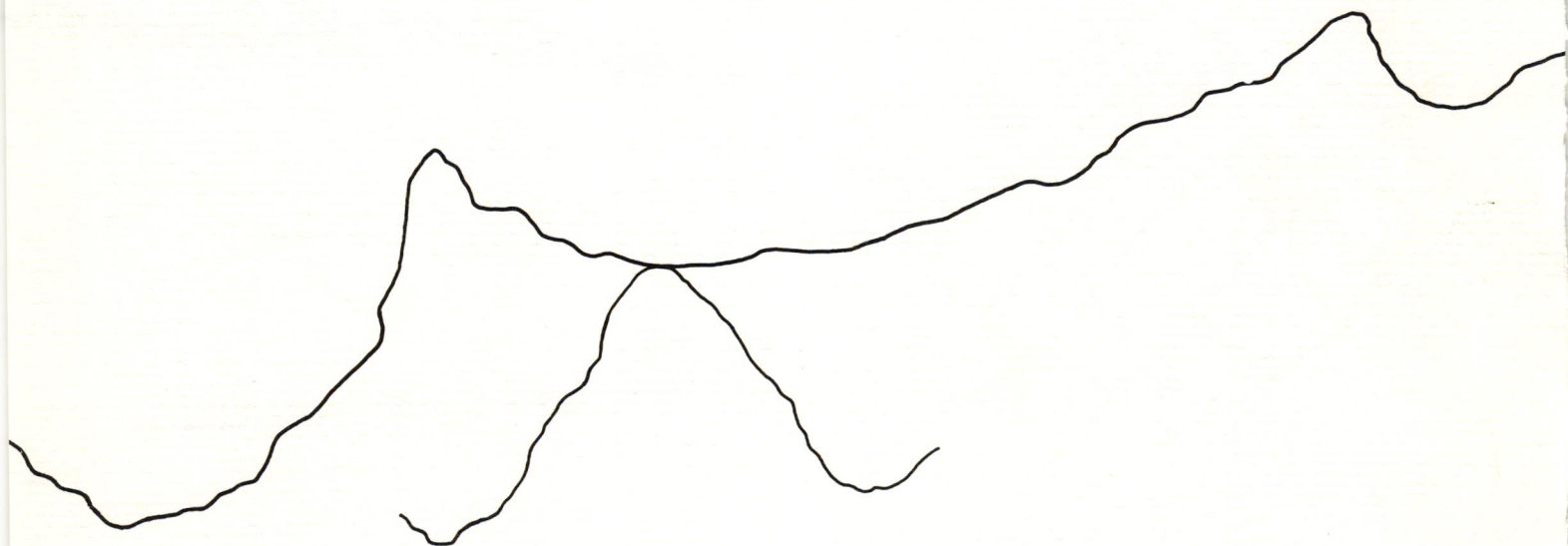




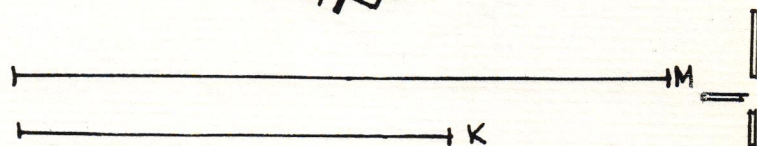
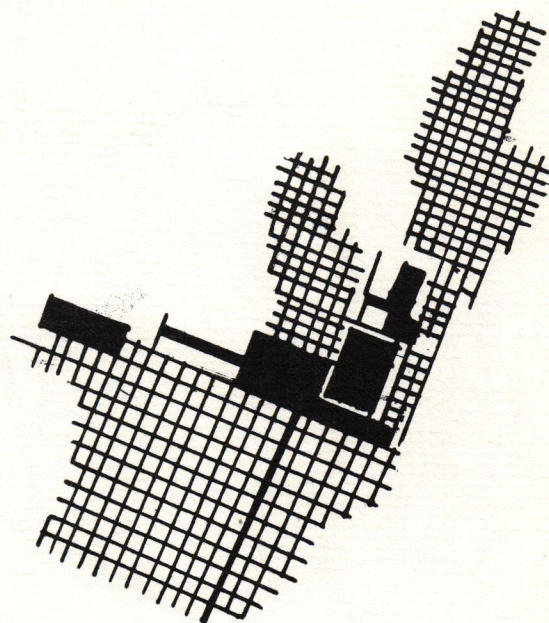
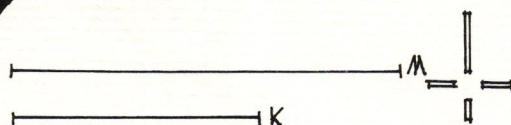
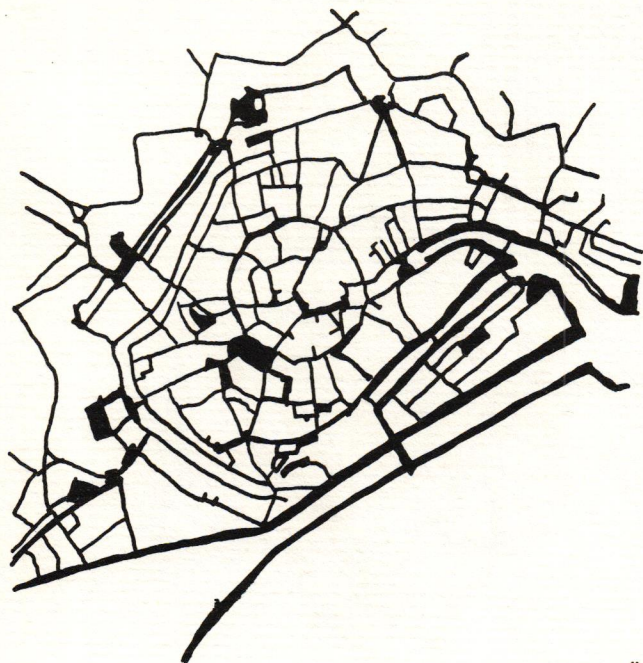


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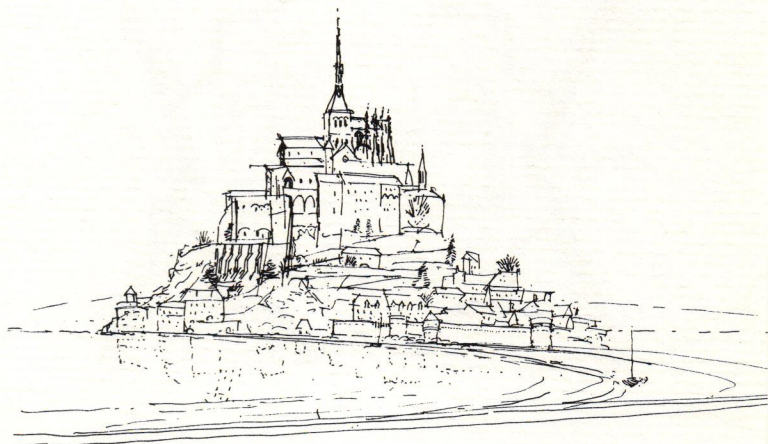
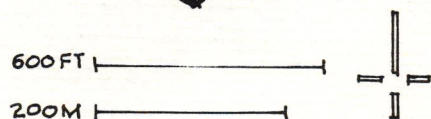
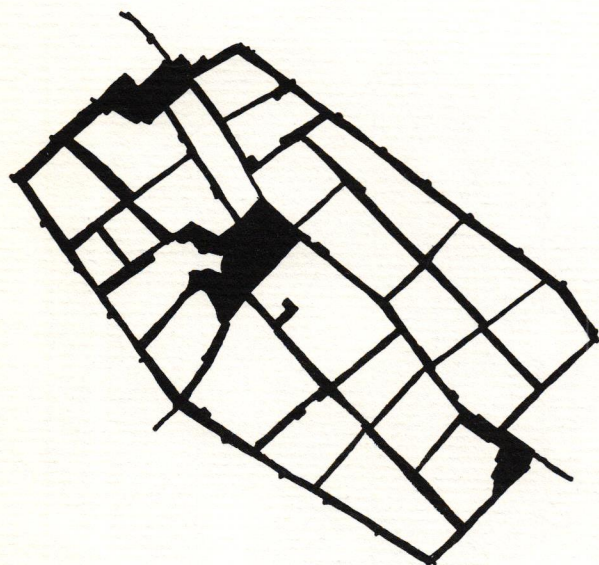




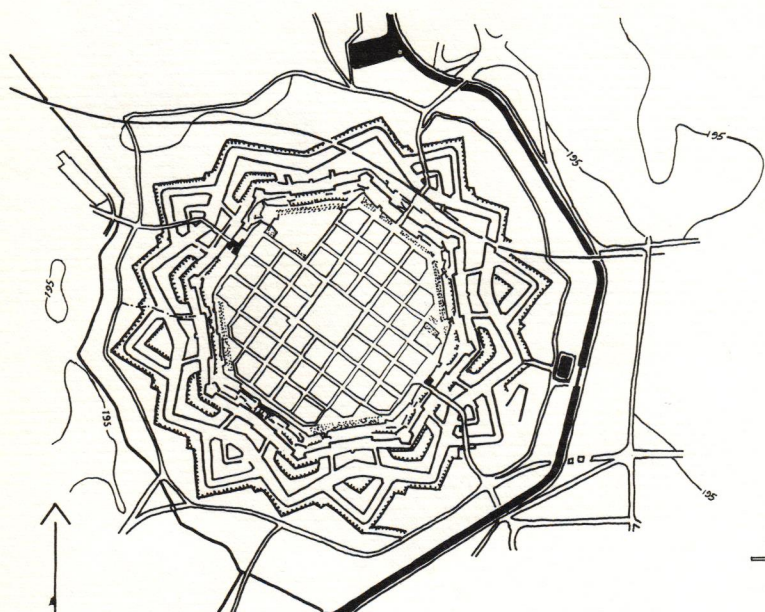


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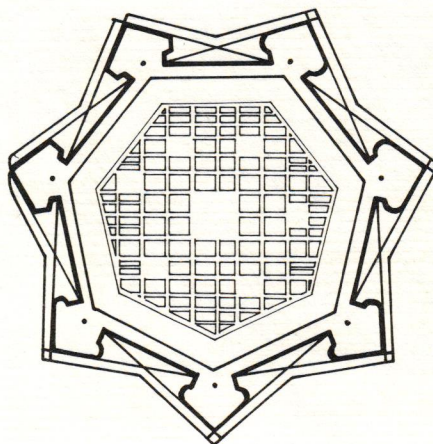
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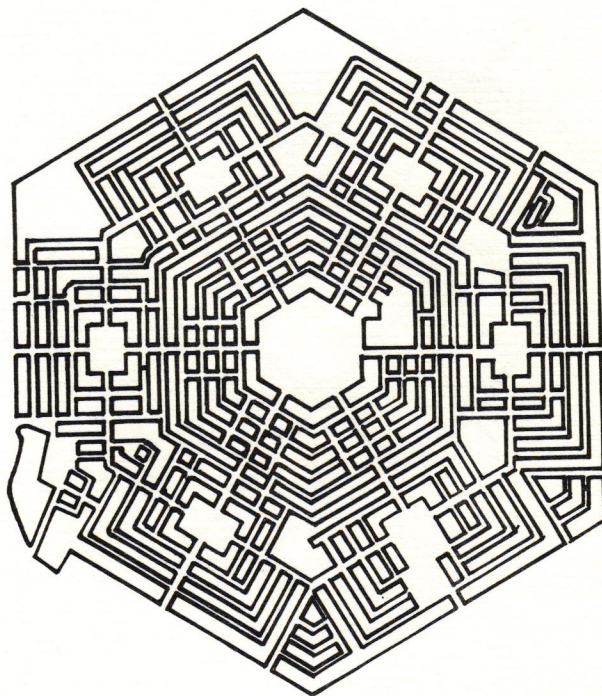
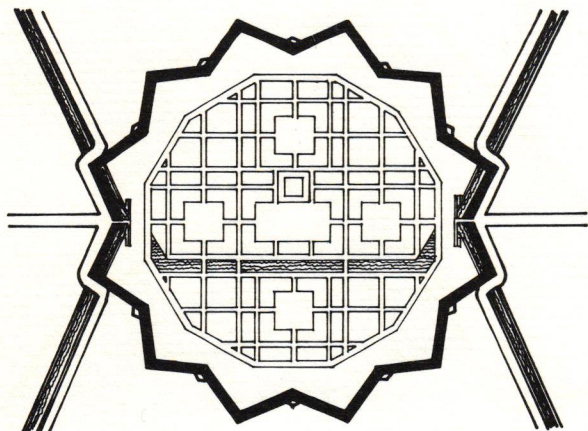
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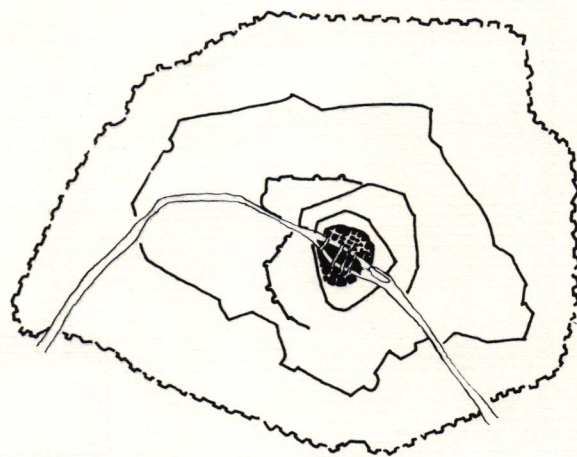
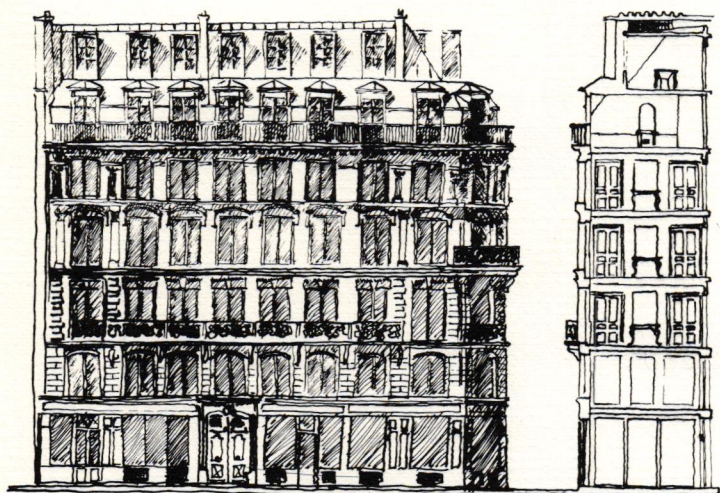
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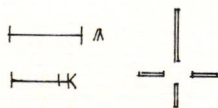
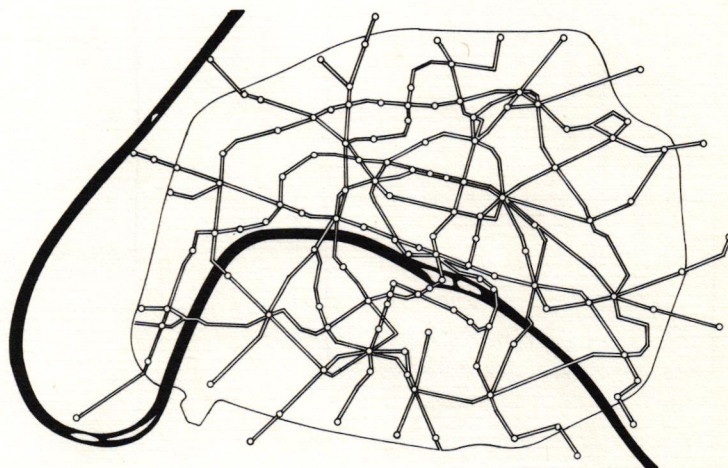
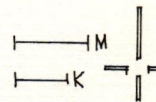




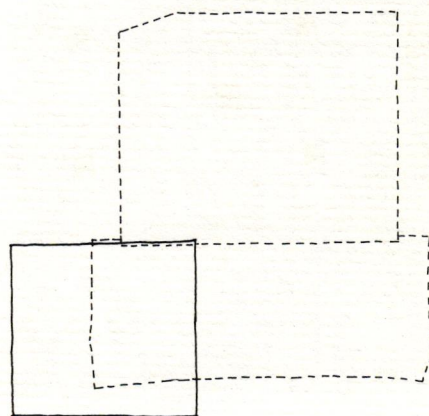
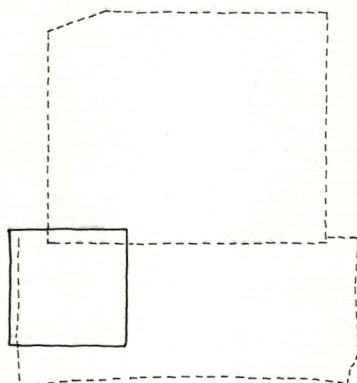
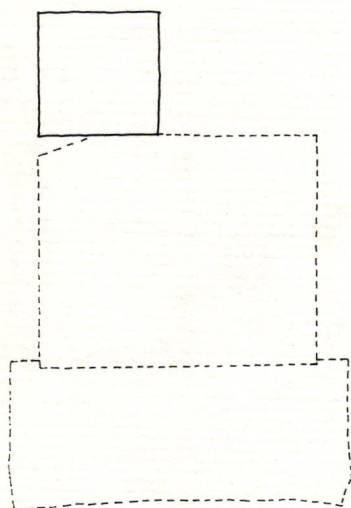


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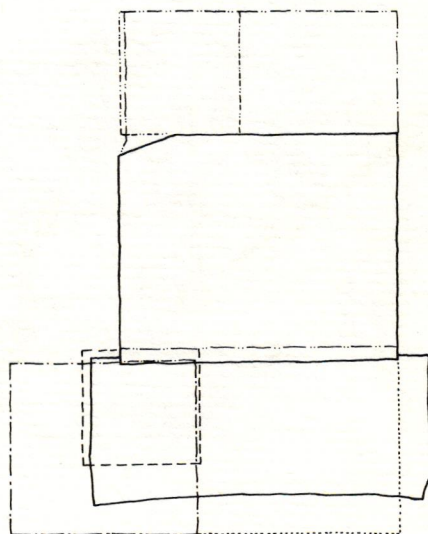
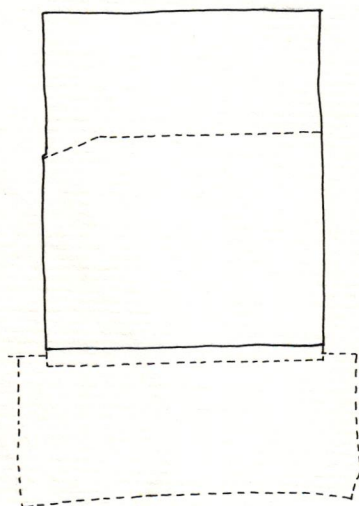
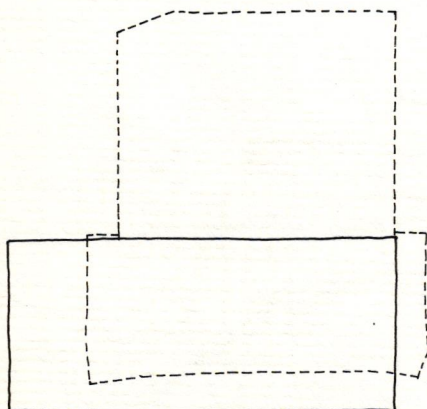




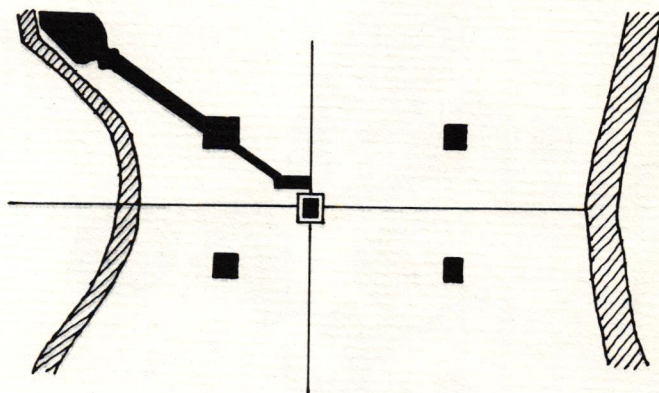
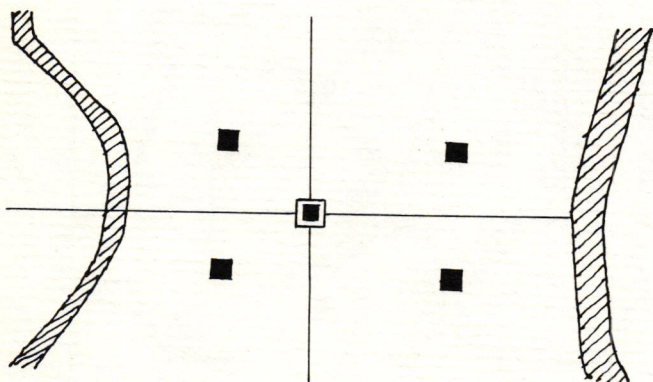


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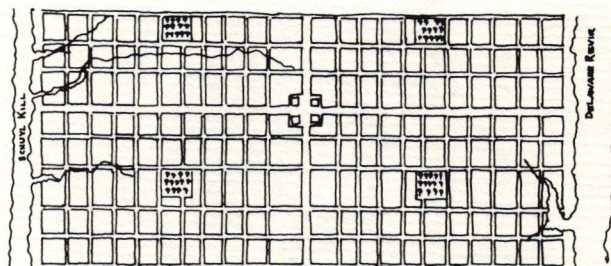
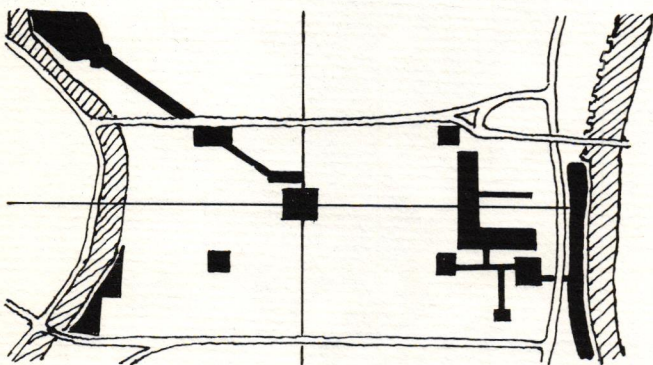






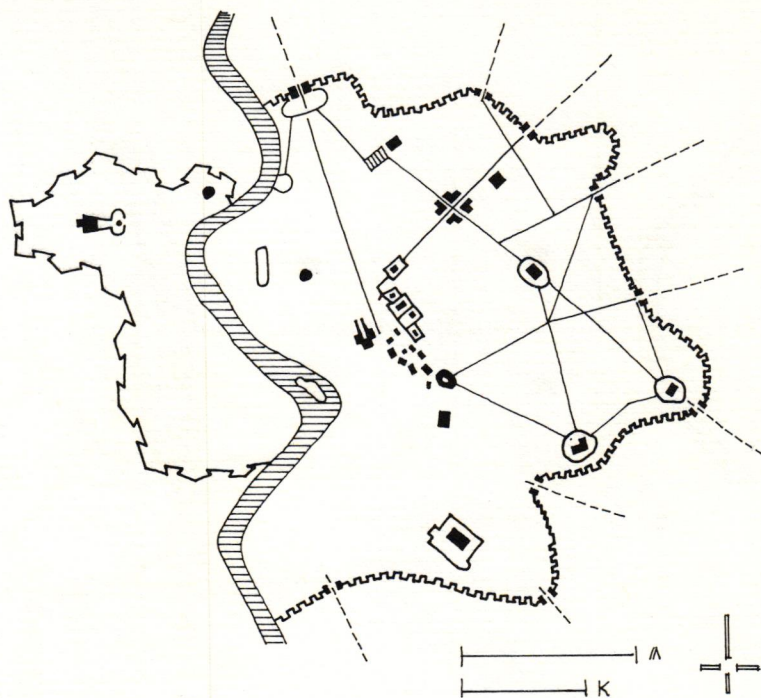
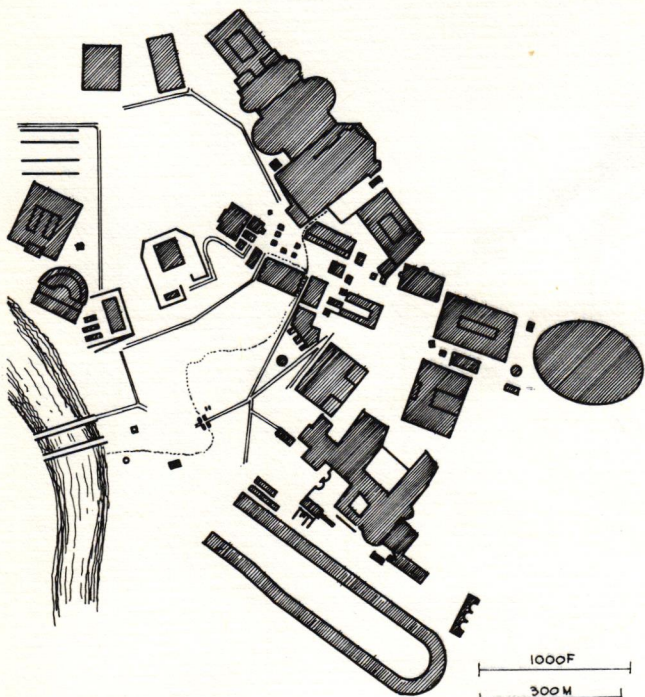
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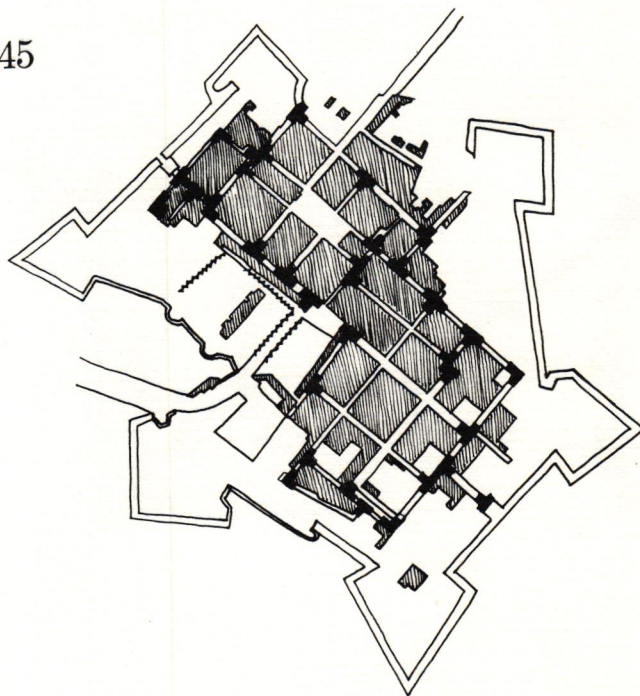
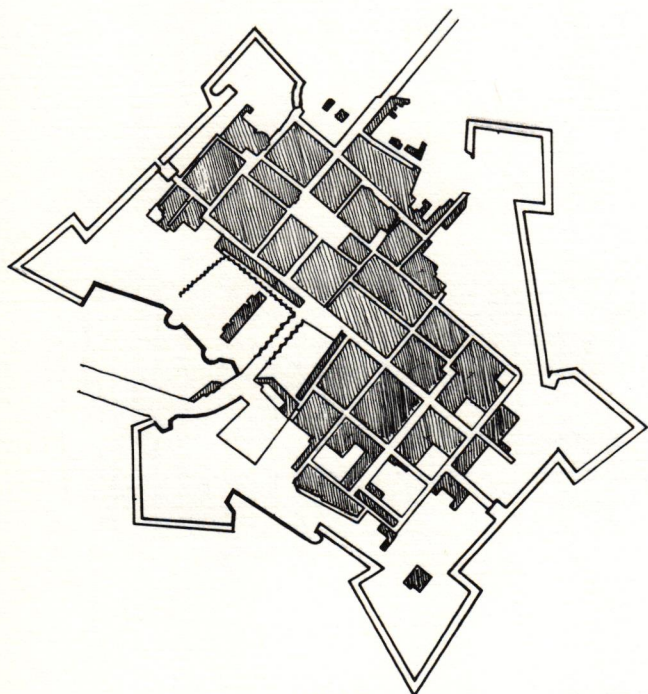
PHILADELPHIA, PENN.'S PLAN, 1762





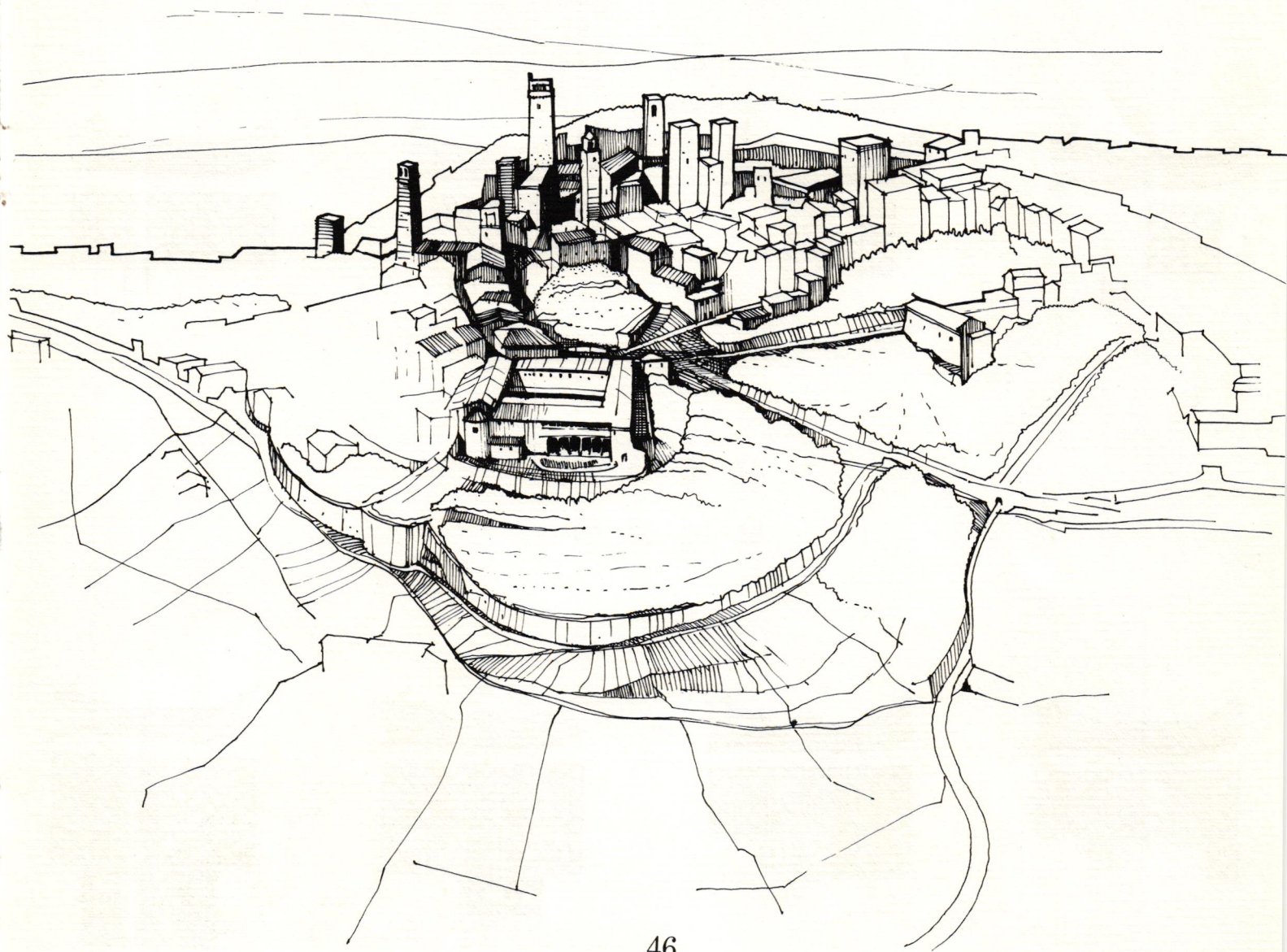
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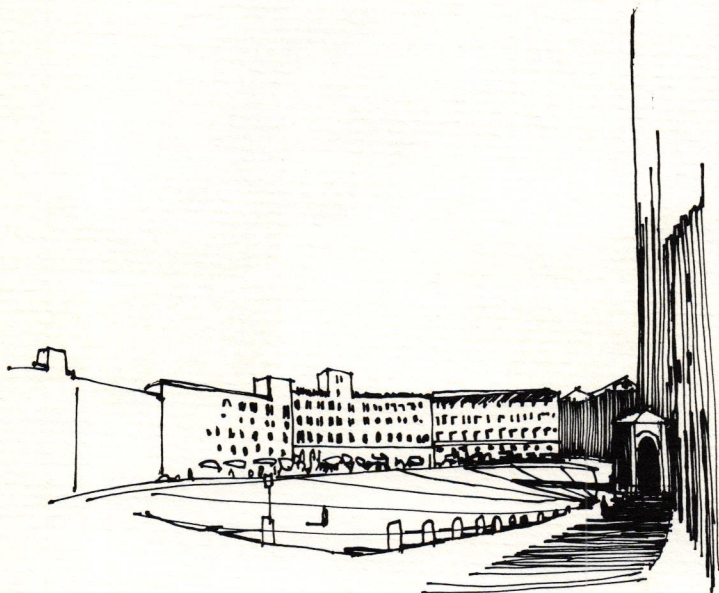


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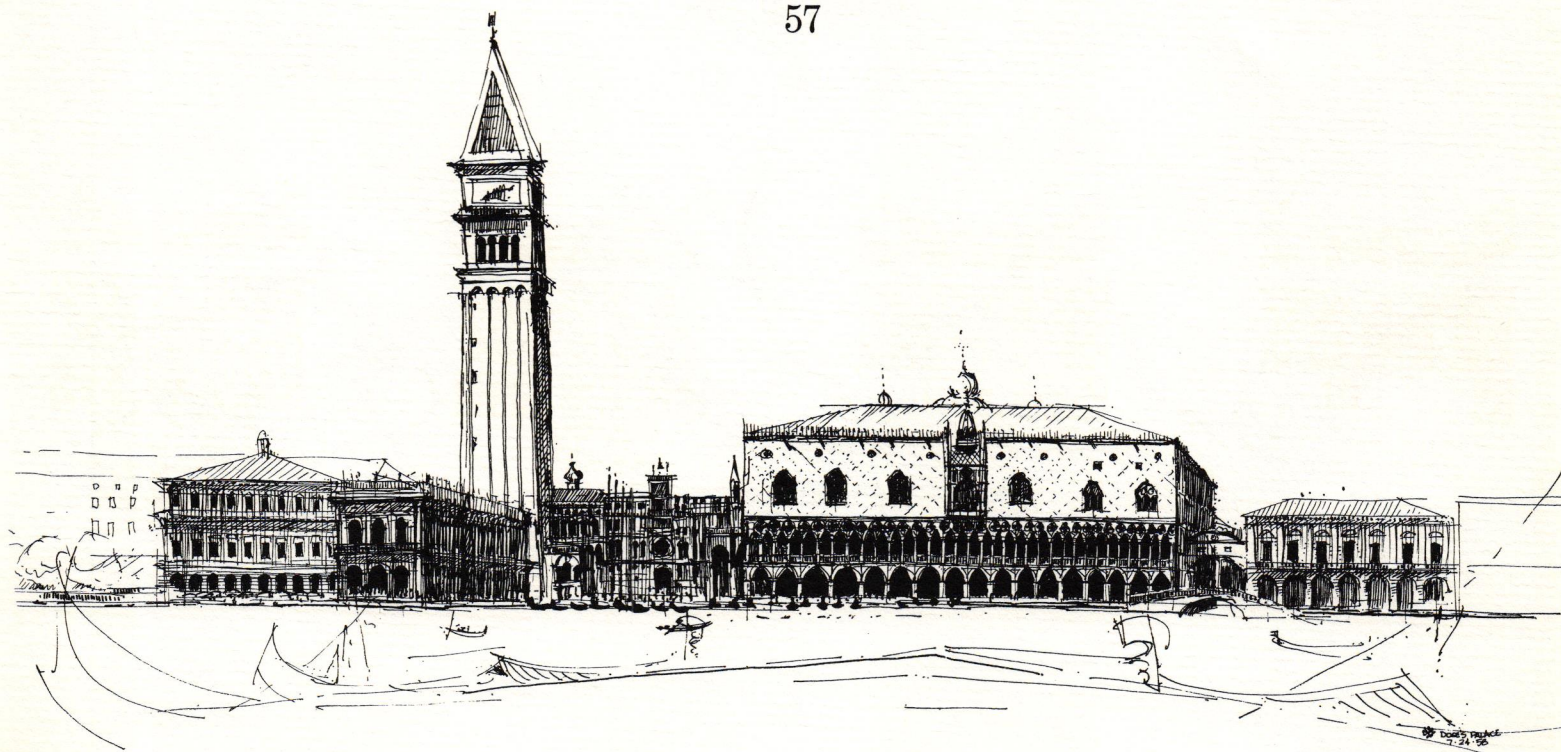




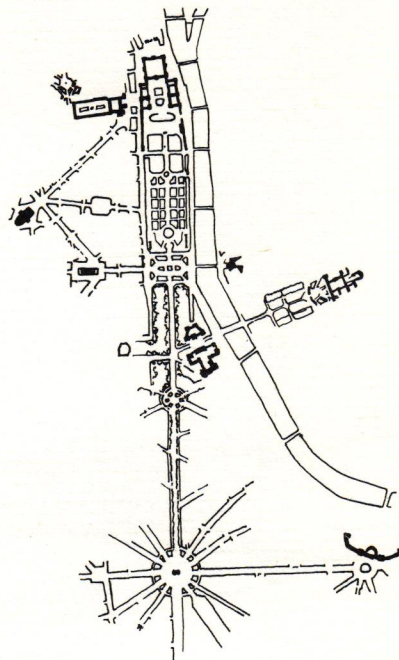
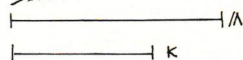
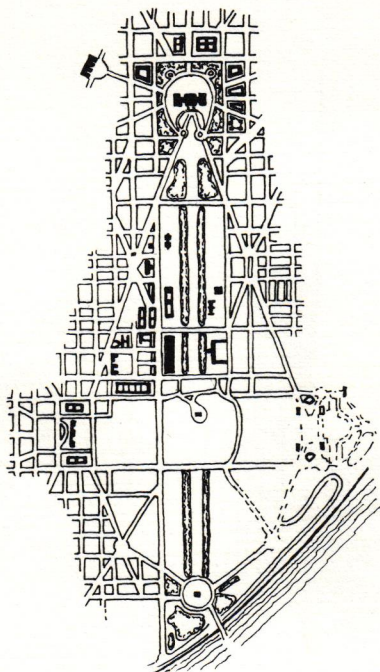
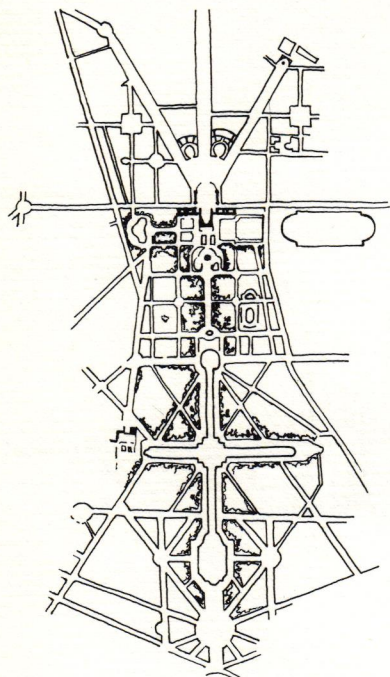


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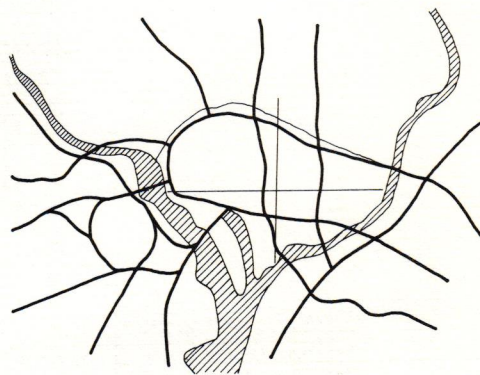
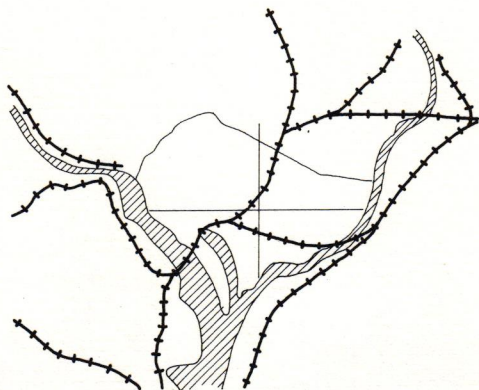
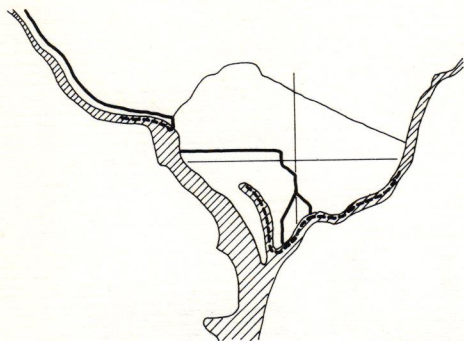




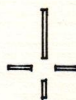
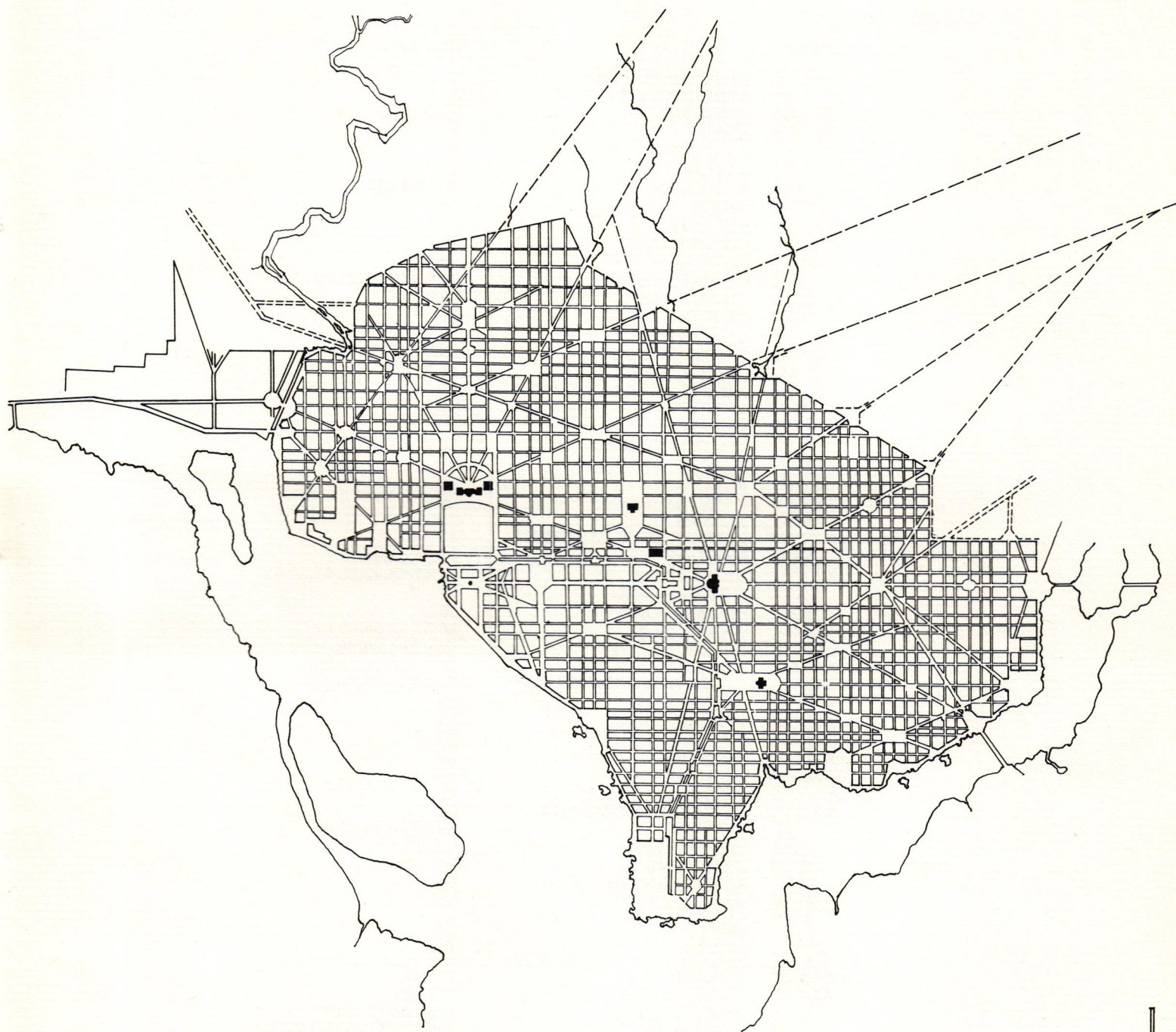


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## PLATES:



#### TECHNICAL INFORMATION:

The plates that form the basis of this issue were produced on 108 separate squares of masonite each 16" on a side. The models were built from white plasticene balsa wood and paint. They were done to the scale 1:7200—600 feet to an inch and photographically reduced to 1:14,400—1200 feet to an inch. The models were produced largely by the efforts of Professor Wurman's second year studio in architecture with help from other members of the student body. They were photographed by Ralph Mills from the visual aids department and reprocessed by Eugene Feldman, owner of the Falcon Press in Philadelphia.

The reproduction of the photographs for this portfolio are made from a special halftone contact screen of a random pattern of paper fibers enlarged 150%. This master screen was used to expose all the photographs. The contrast of each photograph was controlled by 3 factors for balance. (1) length of exposure (2) length of no screen exposure for highlight control (3) flash exposure with yellow light for shadow detail. Film was kodolith type 3. Plates enco type 2 and press Harris 1tp.

Due to our type source, the accents had to be omitted in this brochure. However, they will be found in the captions on the backs of the plates.

RICHARD SAUL WURMAN is an architect, graphic artist and painter. Born in 1935 in Philadelphia, he received his Bachelor of Architecture Degree, and his Master of Architecture Degree with the highest honors from the University of Pennsylvania in 1959. He was a member of the archeological expedition to Tikal in Guatemala in 1958. He and his wife, also an architect, were awarded Chandler Traveling Fellowships to Europe. He is a member of the firm Murphy Levy Wurman, although currently Assistant Professor of Architecture at the School of Design. With Eugene Feldman he has recently published "The Notebooks and Drawings of Louis I. Kahn".

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"Future cities are in general also ancient cities" is a quote from Le Corbusier *Concerning Town Planning*. The Architectural Press, London, 1947.

The Quotation in Mr. Wurman's foreword was taken from Edward Higbee *The Squeeze, Cities without Space*. William Morrow & Company, New York, 1960, and published with Edward Higbee's special consent.

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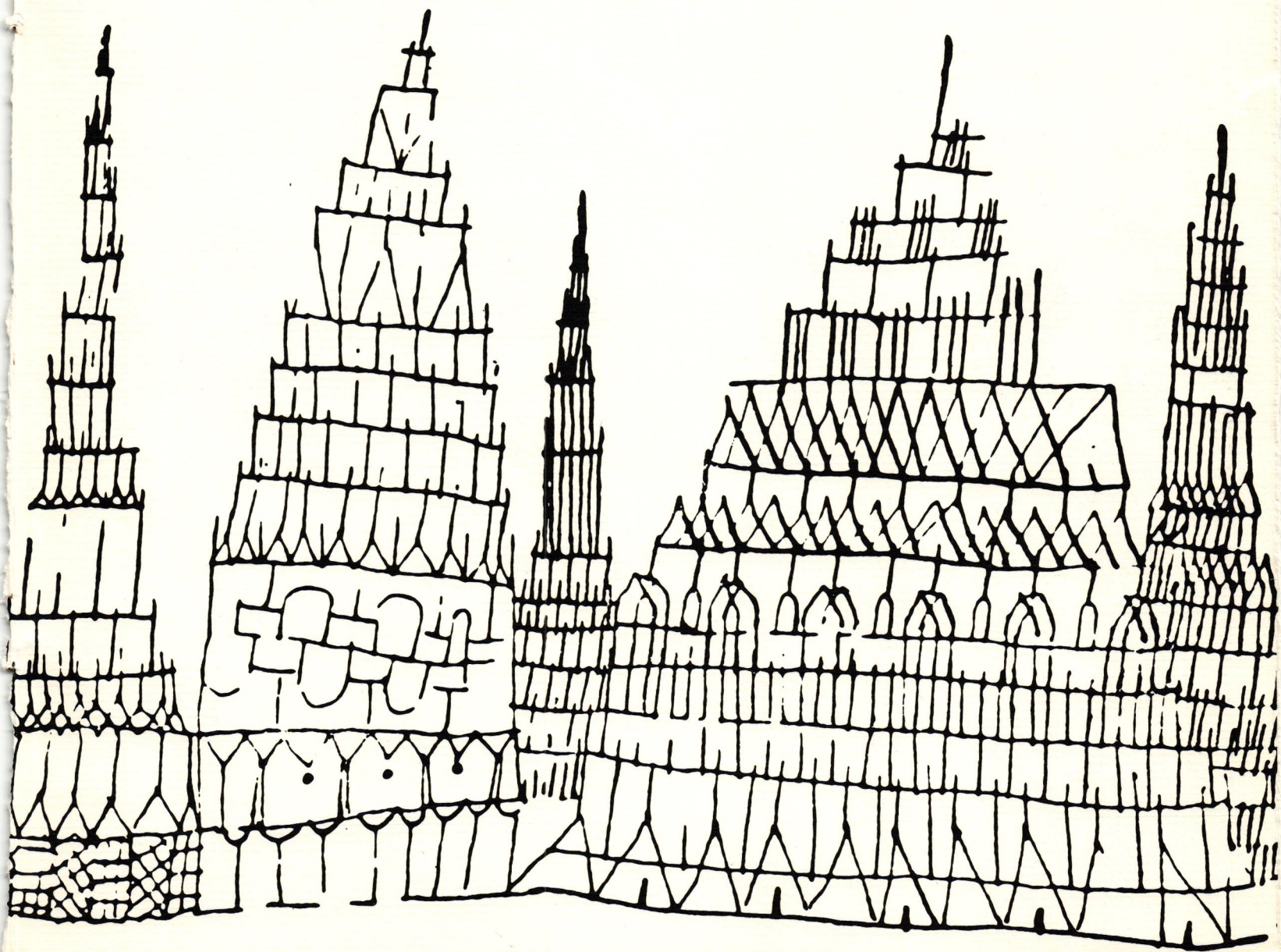
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HOOK	KARLSRUHE	KRISTIANSAND	LUCCA	LUBECK	MACHU PICCHU	MIDDELBURG	
MILETUS	MONTAGNANA	MONTE ALBAN	MONT-SAINT MICHEL	MOSCOW	NEW YORK		
NORDLINGEN	PALMANOVA	PARIS	PEKING	PERGAMUM	PERSEPOLIS	PHILADELPHIA	
POMPEII	PORTOFINO	PRIENE	PYRAMID COMPLEX	ROME	SAARLOUIS	SABBIONETA	
SAN GIMIGNANO	SAVANNAH	SIENA	TIKAL	TIMGAD	VENICE	VERSAILLES	WASHINGTON



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There are two sections to this publication: the plates of the cities and the booklet of supplemental drawings. The latter is in no sense meant to be in itself a study but merely an effort on the parts of the students to further explain the plates of the cities.