DIMENSIONS

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Introduction

This year *Dimensions* set out to examine topics related to the future of architecture. The articles represent a range of views on what "future" means. Three student projects from Dean Beckley's design studio use Italo Calvino's *Invisible Cities* to generate the architecture of a new city.

Michael Graves and Peter Eisenman discuss architecture in terms of figure and language. Must architecture transform itself, as language has transformed itself, lest it become archaic, formulaic, or private?

David Lantrip questions the legitimacy of a preconceived notion of future, and calls for an urban design method informed by developments in chaos theory. Planners must encourage a diverse environment as localized order will emerge from the sometimes chaotic interaction of "Life's Players."

Deborah Thom argues that Aldo Rossi's cemetery at Modena is an architecture in which past, present and future are condensed and internalized.

Kurt Brandle forsees a bleak future unless architects encourage a more efficient use of the environment thereby maintaining the precarious balance between growth and the depletion of natural resources.

We found that in order to explore the future we also had to examine the present. The plight of the homeless recurs this year as a theme, as it should. Two approaches are offered, Todd Steiss focuses on the flexibility and affordability of manufactured homes in the inner city; Marc Cohen – the winner of this year's Saarinen-Swanson Essay Competition – calls for architects and planners to join with developers and government in a large-scale "transformational design solution."

Architecture: The Creation of an Invisible City and its Artifacts

The projects which follow have been produced in a studio course in architecture at The University of Michigan. The premise of this studio is that architecture is generated by a program and secondly, that the nature of architectural proposals is affected by the means used to present their reality.

The programs for the studio have been generated by a text written by Italo Calvino entitled Invisible Cities. In this text Calvino uses Marco Polo to describe fifty-five cities to Kublai Khan. These cities are presented as eleven different types.

The designers in this studio, eleven in all, have been asked to use Calvino's text to generate ideas for the creation of a sixth city. The sixth city, they were told, was to have a character similar to other cities in the set of five. In the workaday world, this is not an unusual task as clients ask architects to design something new which is like something else.

The designs presented by Barbara Felix, Dan Lichauco and Suzanne Riley represent the wide range of interpretations given to the Calvino text. Neither utopias nor dystopias, the images presented signify the broad array of possibilities associated with the cities locked away in Calvino's mind. The project by Felix suggests a seaside resort turned into an aviary city. Lichauco's city, like so many "real" cities, is a gateway city created by the ancient demands of trade. Riley's city is inspired by the topsy-turvy imagery of M.C. Escher, an almost impossible, gravity defying, world. Only Alice might feel at home in this wonderland. The design of monuments to the idea of each city was a challenge to the studio to represent the idea of each of the eleven cities in symbolic terms, an art nearly lost in our pragmatic world. All the other cities and the authors of their vision are represented by these monuments.

Do not judge these drawings for the beauty of the environments they portray. Instead look at these drawings for the commentary they make about architecture and the city and ask yourself the question, "what is utopia and what is dystopia, and can we tell the difference?"

Robert M. Beckley

Cities and Desire
Barbara J. Felix

Robinia is located three miles South as the crow flies. It was once inhabited by many different varieties of birds. Some birds lived in the tree tops that once covered the landscape. Others lived high in the cliffs which overlook the serene and peaceful sea. The birds were free to fly about Robinia as they pleased. They flew low, zooming in close to the tree tops. They flew high, soaring up into the sky. They flew East, searching for the rising sun which would dry their dew moistened feathers, and they flew West, following the ribbons of colors which unraveled from the setting sun. They swooped to the North and would hang, seemingly motionless, waiting for their Northern counterparts to arrive for the Winter. With the arrival of these brightly colored birds, Robinia would become a blur of activity with Avocets, Eiders, Oyster Catchers, Osprey, and Woodlarks flying about in great swooping masses. The human inhabitants of Robinia vaguely remember the birds and their freedom of flight. They have built their city as a monument to the birds and their freedom. It is built high in the air and its many hanging plants and greenery remind a newly arrived visitor vaguely of the leaves on a tree. The structures themselves branch out and support the activity of the citizens, not unlike the tree branches which supported the activity of the birds. Each citizen waits eagerly checking wind velocities and flight patterns so they will be ready to greet the birds, if and when they return.
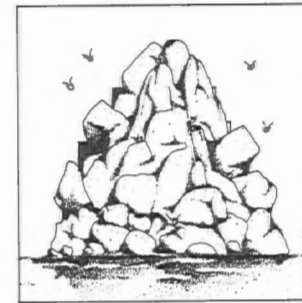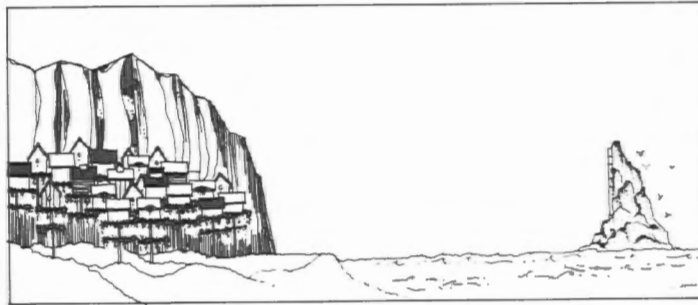
Freedom to be bold and straightforward, regardless of the results, in order to break with the usual rules and patterns which govern our image of a city.

Characterized by buildings placed high in the air, the city gives physical form to its inhabitants' desires, yet in the process of its developments, the elements which first defined its typology are lost.
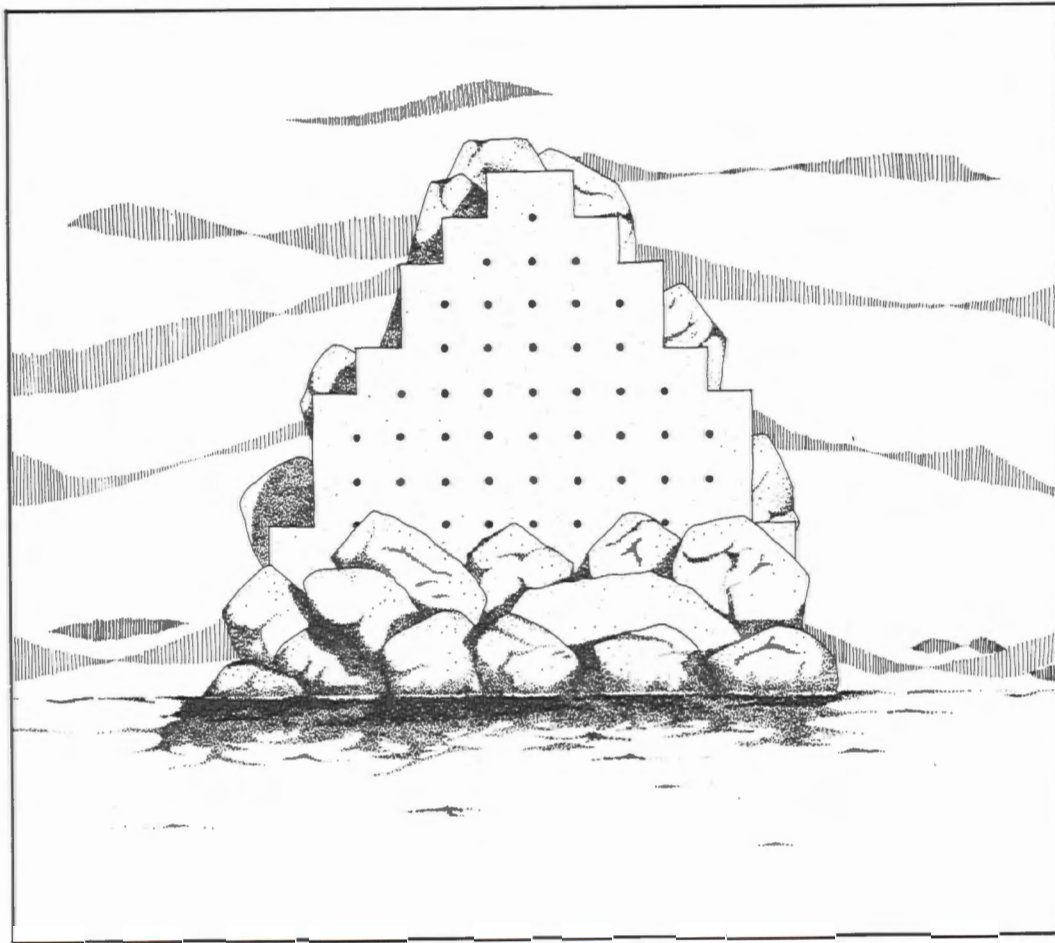
Freedom to look beyond our immediate surroundings in order to test new ideas using old forms, though often, it is only in our re-analysis of the old forms that we understand the impact of our new ideas.

The monument was built as a reflection of the attitudes and values which helped develop the city. Yet by placing it away from the city and altering the natural landscape on which it sits the monument instead became an icon for what the city now is. The birds which have returned fly only about the natural rock and ignore the manmade landscape.
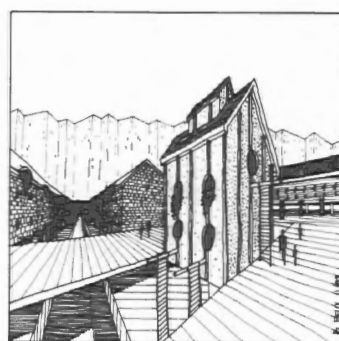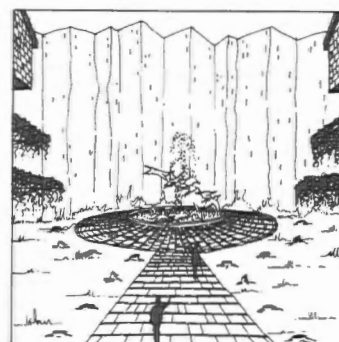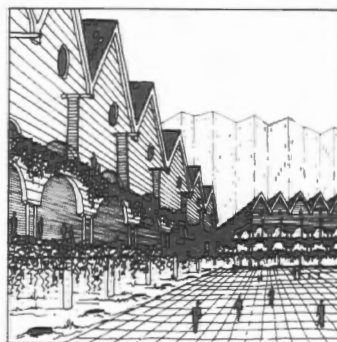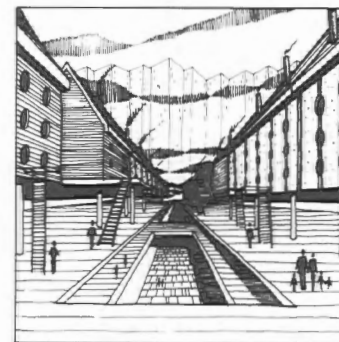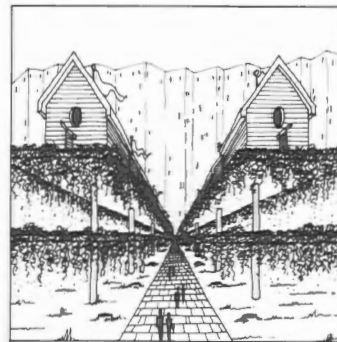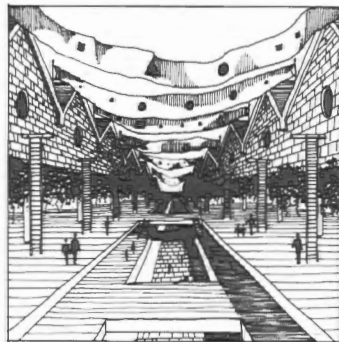
Freedom to act without restraint, to move freely and of our own free will, in spite of a social or urban zoning which dictates our cities' growth.

The nature of the city defines the zones within any given quadrant. Yet as the inhabitants move within the city it is clear that the city is actually composed of a three-dimensional circulation grid composed of horizontal platforms and vertical ladders which allow complete freedom of movement.
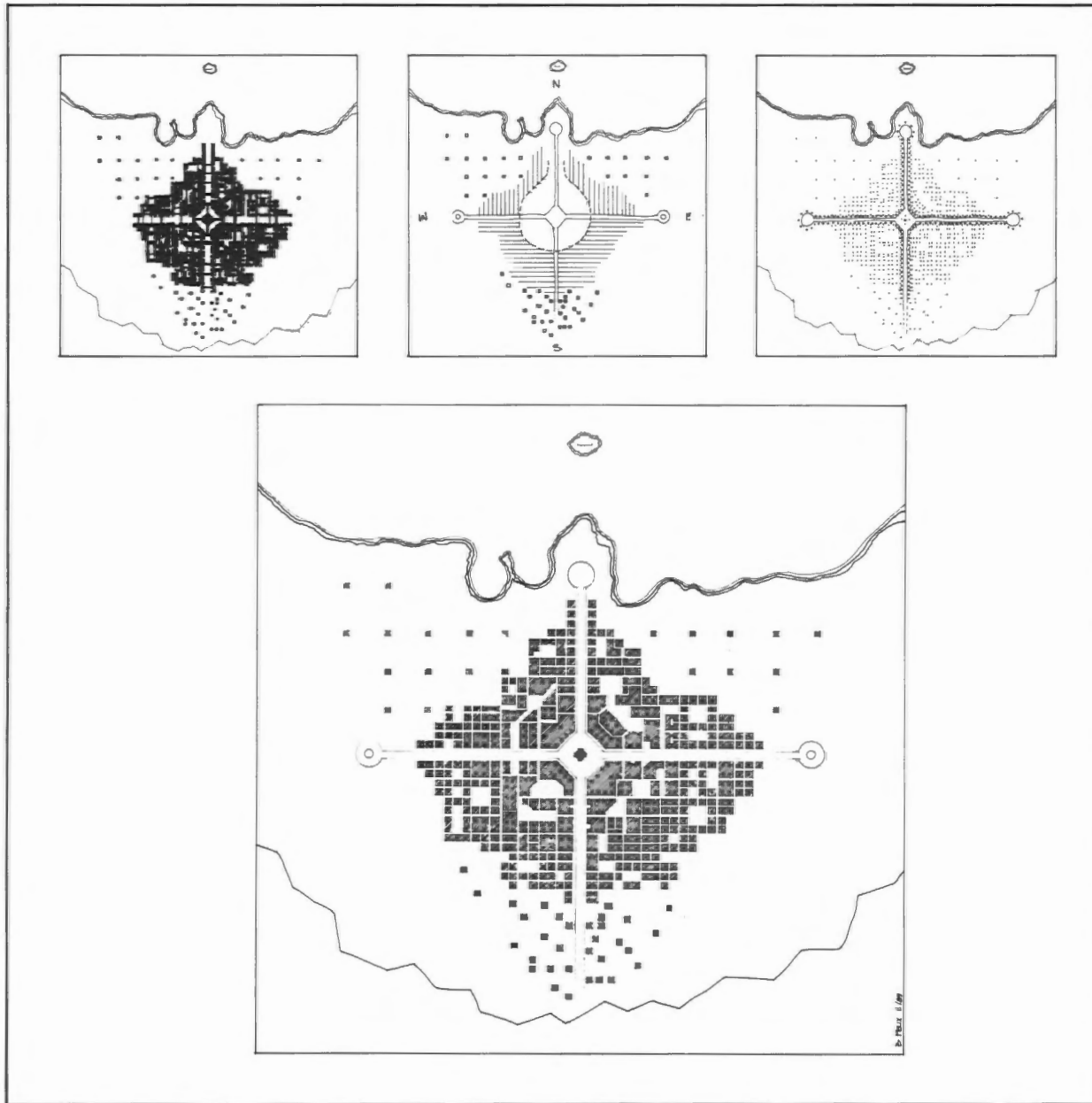
Freedom to develop a new set of parameters based on an existing set of rules.

The city's pattern of growth developed much like other cities. It started with the older isolated buildings in the South and grew into the newer ordered buildings in the North. It also retained its orientation about the cardinal directions in order to deliniate the path on which the birds once flew. Yet its true nature is characterized by the poles which are its structural support.
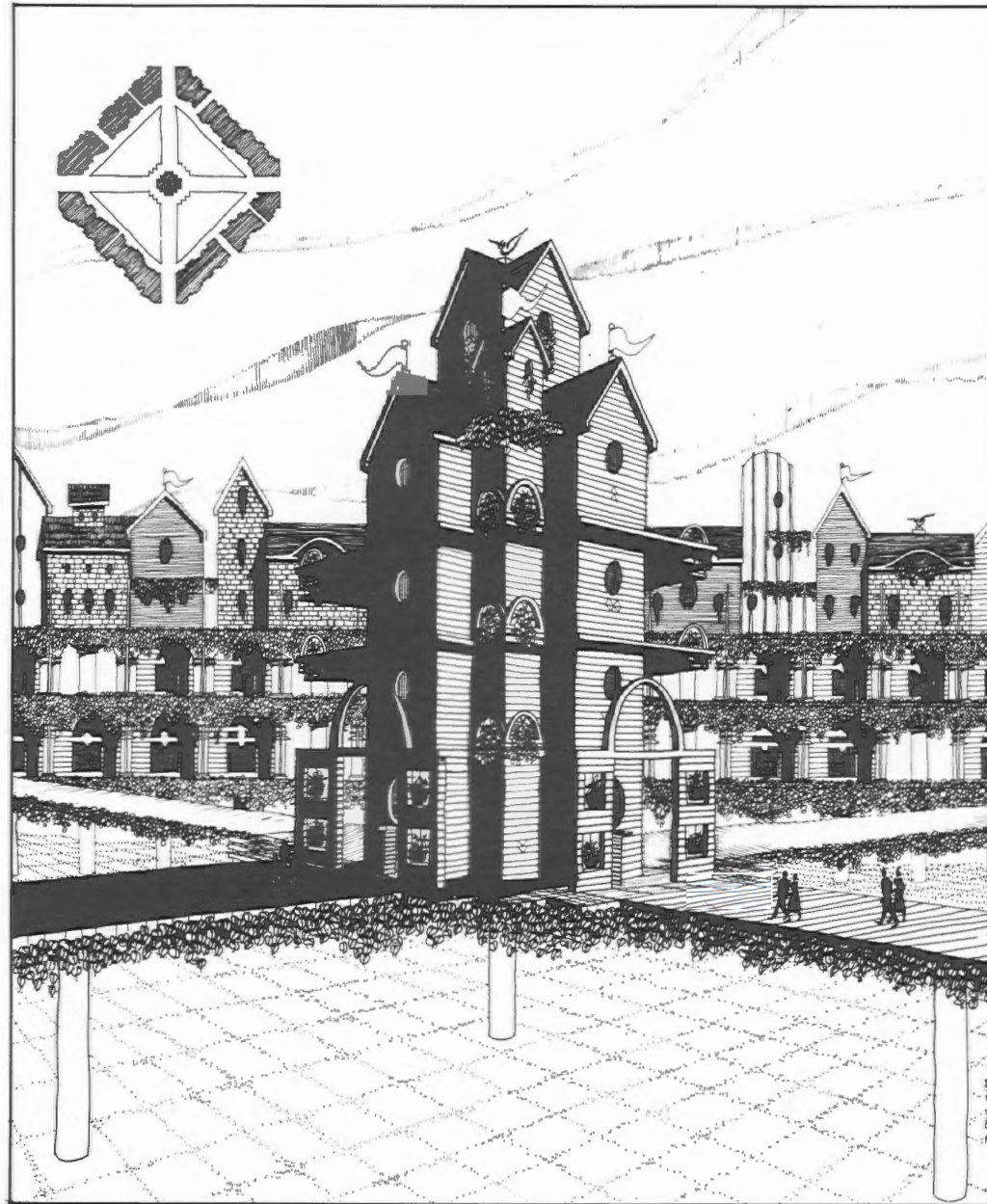
Freedom or privilege of place expressed by the importance of location and shape.

The Museum is clearly the focal point of the city square. Located at the city's center, the platforms which connect it to the other city platforms are grand in scale and may only be entered from each of the four cardianl directions. Yet, because it borrows typological elements from the rest of the city and is vertical in nature, it is a microcosm of the city itself.
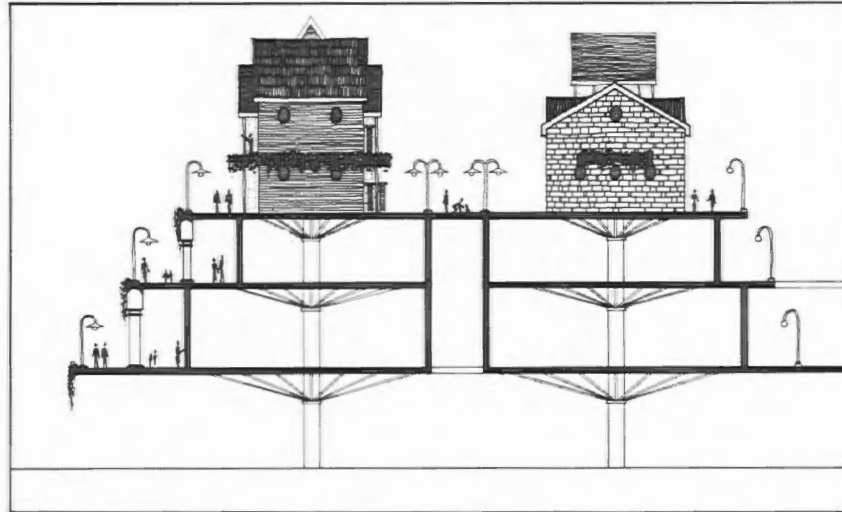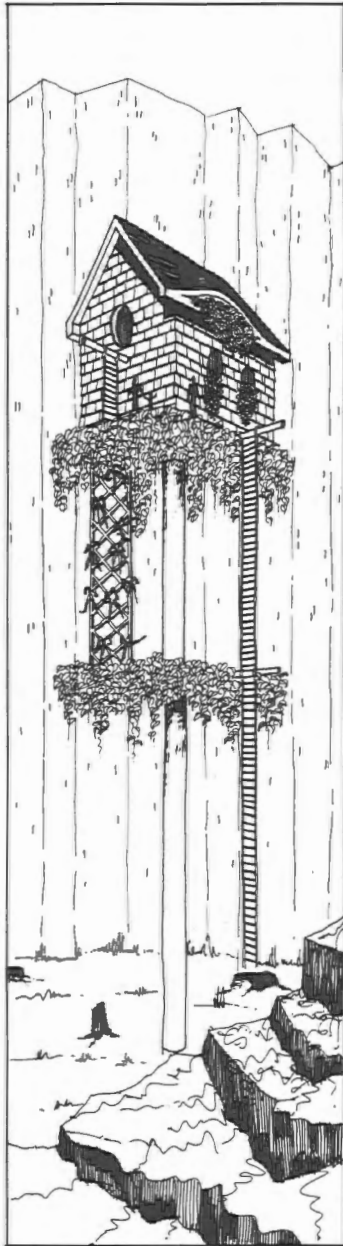
Freedom to take a basic building block and add to it in various ways to develop a better understanding of our freedom to individualize personal space.

The private realm is characterized by a single house standing alone. Yet, over time, the city grows closer and closer to it, until finally it is surrounded. The distinction between the public and private realms is blurred as the individual building loses its isolation. Yet each citizen is able to develop his own set of rules in order to retain his sense of place.

Architects Peter Eisenman and Michael Graves have been friends, associates and colleagues for almost thirty years. They visited the University of Michigan, College of Architecture and Urban Planning on March 12, 1990 to jury Dean Robert Beckley's urban design studio. Dimensions had the opportunity to speak with them on the drive to Ann Arbor from the airport. The interview was conducted for Dimensions by Anthony Vogel.

"Agreeing to Disagree: A Conversation with Peter Eisenman and Michael Graves"

Peter Eisenman (left) and Michael Graves, 1990.

"I don't think Michael and I disagree that much or we wouldn't be in the same car." Peter Eisenman

Dimensions: Because the two of you have been invited here as guest critics it is a good opportunity to interview both of you together. You met in Rome?

Eisenman: Yes, but the significant meeting was a year later. Michael had gotten a job at Princeton, and I had interviewed there the August before Michael came. What is interesting is that neither of us knew that the other was going to be there. But had either one of us been there alone, I think it would have been very difficult. We were able to do things, precisely because there were two of us.

D: How so?

E: Whatever Michael will say later he was probably a more dedicated modernist than I was at the time. The energy behind the kind of Modernist discourse that he and I entered into, I think, came from Michael. He was really steeped in Le Corbusier and Modern painting – and you know it was incredible how much he knew and how little I knew. I did know things from Colin Rowe but my background was Terragni, Palladio, and some Corbu. Michael was very much into Corbu and Matisse. I would like to think – and Michael might want to disagree with this – that Michael is an unreconstructed Modernist. If you look at his Disney hotels they are indeed Modernist objects in the landscape. They may not be Modernist in style but we don't care about the style. We are talking about the way they deal with the urban condition. We can argue that point, but I think that Michael will always come down

on that side of the fence. They are mega-buildings.

D: John Hejduk has made a similar point regarding Michael's work. I recall reading that Hejduk did not see an evolution in Michael's work away from Modernism.

E: I think Michael *was* changing – he introduced figuration – but that is another issue. But I wanted to ask you Michael, if the actual point of change wasn't when you went to London and saw Leon Krier's work. You then went out and started sketching Hawksmoor and things like that, and you came back with that sketch pad full of Christ Church and the like. Wasn't that when your mode of discourse, when your imagery, started to shift?

Graves: No, I think it started when I was in Rome. However, when I returned from Rome I didn't know how to deal with the figurative dimension of people like Borromini. However, by the time I had built the Benacerraf house I was accused of using a "private language" – which was the *opposite* of what I thought I was doing.

D: A private language?

G: Yes. I realized then that there was a limitation to what I could do with the language of Le Corbusier. In other words, no matter how much of the figurative, color, texture or other adjectival dimensions you could lay onto Le Corbusier, still the code was essentially abstract - and that is exactly what I did *not* want to do.

E: I never thought you were so much influenced by Corbu as you were by his mixture of Morandi.

G: Morandi was a big influence. Corbu, Juan Gris, all of those people were a big influence.

E: But wouldn't you say though that the change, the key – when it clicked for you and you said "I know how to do it now" – was when you went to London?

G: I had been to London and I had met Leon. I had seen Leon's things published and to some extent things were in the air. I had drawn something, and when Leon once came to Princeton and walked into my office, and saw it, he said "This is nothing you could have seen of mine, but I have a project that is very similar to this. It is clearly in the air." But the next project that was the teller to me was the Claghorn house, which added yet another dimension.

D: And the key to the change?

G: It was a very slow and in some ways painful examination of the figurative within the work, so that there was this sense of character that could enter the work that had not been true even in the late work of Le Corbusier. I mean that Le Corbusier worked in the free plan, and I thought that the free plan was ultimately one end of the spectrum that could be useful to architecture.

D: These are the words we now associate with your work: the "figurative," and "character." You feel that it is very

important to reestablish the resonances of history or some of the cultural associations that we have with certain forms. But this is where you two seem to diverge. Peter, in your lecture here on "weak form," you seemed to be searching for an aesthetic which is really a polar opposite. Aren't you developing an architecture which is divorced from the traditional connotations of historical form?

E: No, I do not think it is polar – I wouldn't say that. First of all I don't think my architecture is divorced from historical form.

G: It has to have the historical form to make its argument. Therefore, to make the opposition, he needs it.

E: I need it. If it's not there I create it. What I would argue – and I don't think Michael and I disagree that much or we wouldn't be in the same car – is that a language, like any historical language such as Latin, has to transform itself or else it dies. The Catholic church has been very clever in understanding that you cannot continue to have mass in Latin, so it transformed the mass. I think that what we need is a transformation of the historical language.

D: You would disagree with Krier's use of traditional language then?

E: Where I disagree with Krier, or the Quinlan Terrys, for example, is that they take the stuff cold out of books, almost like Warhol paints a soup can. From copy books they bring things to the present day reality, but it has nothing to do with the present day "church." I realized that a long time ago. Now I believe that we need to speak of *multiplicity* of languages. I mean, I think, that when Michael Graves does a plan, it is part free plan, part poche', part classical plan – it is never fixed. I believe the same thing. If you look at my work, it is never a single entity at all. It is always a collapsing of the language and I think that this is where Michael and I may differ.

D: How so?

E: Unless you question, not only the language, but what the language is encompassing – that is the function, its enclosure – you are just questioning the style and the form. In other words, I think you have to question the content and that is why I think *Ulysses* and *Finnegans Wake* are great works. They question the *content* of the narrative and I think this is where perhaps Michael and I probably come unstuck. Why I think Michael's still a Modernist is that in his work the Modernist relationships between the site, program, and function are in place. I'm not convinced that that is where he is going to be five years from now. If you see the work of the students you can see that there is a big change in the discourse.

G: Peter's made a couple of reaches. It may be *more* stuck in five years. We don't know. But the one thing that we both do is *develop* within the canons of architecture. We both know people who have been doing the same thing for thirty years as if it's a formula. That is what Peter means when he says that ultimately it's a stylistic question for them.

E: Exactly.

D: Are they speaking a "dead language?"

E: Well, I am talking about either side of the fence. I am not talking about *my* side or *his* side. I don't believe in that polarity. In other words, if you asked us "Who are the five architects in America that you feel most comfortable with?" our lists would probably come pretty close. And it would have *nothing* to do with stylistics. The architects that we disagree with are the ones speaking what we would call a formulaic language.

G: It is clear that there are architects who are *very* comfortable with what they do, and they are constantly refining it. But if you look at Picasso, Frank Lloyd Wright, Le Corbusier, and other artists actually dealing with the medium they were engaged in day in and day out – they had to raise questions about the preceding thing that they had just done and the experience that they had gained by doing it.

E: Let me ask you a question Michael. Let's talk about paintings. I am amazed that you left people like Johns and Rauschenberg, people in contemporary painting for which I thought you had a tremendous affinity. What I do not understand is why you gave that up for what I consider to be, in a lot of cases, a rather static language.

G: You attributed an interest of mine to people like Jasper Johns and Robert

Rauschenberg – not on your life! No, I was interested in de Kooning. That was a very different thing. And while I was interested in de Kooning I was not interested in Franz Kline. I left at the point that those guys went around the bend for me. Again, for me it was private, and I am not interested in private languages. Where I hold different with Peter is that I think there is *plenty* of room to maneuver within what he would call the static language of architecture, within the four walls. I think that it is within that interpretation that we do try to understand, or find interesting, people like James Joyce. But Peter, to make a reach here, would rather stand the language on its head and have a debate with the language by inversion. I am not interested in that.

E: I would have thought that there are many strategies including inversion. I was referring to a language which you and I used to talk about when you exposed me to a lot of painters, de Kooning among them. You were never dealing then with what I would call academic painters of the late 18th, and early 19th centuries.

G: Well, I had not looked at those things as closely as I have now. That is not to say that I imitate them.

E: Let me ask you a dumb question. Being raised by Colin Rowe, I was raised on endless Pontormo, Parmigianino, Bronzino. I mean I was really steeped in that stuff – Vignola, Scamozzi, Giulio Romano, Sanmicheli, too. I am curious as to why the references of what we know to be certain neo-historicism today, never use Serlio and those people as their roots. They always use the 17th, 18th, or 19th century rather than going back to the 16th. If there was anybody who would be considered a Post Modernist it was Serlio. I mean he is real fuel for post-modern figuration. What is interesting is that Giulio Romano has just been rediscovered in a sense in Italy. Not by the Post Modernists, but by the straight line Modernist-Marxists.

G: You see, what many architects would do is replay old themes each time. And what the two of us do is try stuff.

D: Speaking of "trying stuff," Peter, when you were here last you spoke to us of your recent explorations in trying to define "weak form." You said that architecture has traditionally been a "strong form" discipline, and that you placed Michael's work squarely in the strong form camp. You also said that weak form does not mean bad form, or bad architecture. Could you explain?

E: Yes. I would say weak is the difference between good and evil. "Evil" is not the same as "bad." Nietzsche purposely chose between good and evil, rather than good and bad. "Good" and "bad" is a dialectic, while "evil" is something else. All of us need *some* "evil" – that's what the film *Blue Velvet* is about, I think. It's about the problem of evil, and I think it's the Dionysian position. I'm very interested in that. With the breakdown of rationality and reason, there are a lot of issues that deal with this problem.

D: Well, if you are the Dionysian, does that make Michael the Apollonian?

E: No, he's also Dionysian.

G: No, I wouldn't use the terms "good" and "evil." I prefer "tragic" and "comic."

E: And you are which?

G: I'm both, always.

E: Always. That's right.

G: That's all you can do. ■

Because the city is a home, a human achievement, and a gathering place in the landscape, it has been the tendency of architects and planners to extend a sense of security to stasis as if the city were somehow above the passage of time. Yet the city exists in a continuum. Not only is it in time, and subject to its creative and destructive processes, but its forms are a palimpsest which embodies time.

It is the challenge of urban architecture to address the city in a continuum. The architect must accommodate the passage of time, the evolution of function, and the reinterpretation of meaning which occurs in the interim between design inception and construction, and which continues long after the project has been realized. Simply stated, much of the quest of urban architecture has been to build in the city's present recognizing that it has been born of its past and is maturing into its future.

I design my projects with a discreet sense of affection for each one, but I reduce them to things that surround me: country houses, smoke stacks, monuments and objects; as if everything arose from and was founded in time; in this beginnings and endings are confounded. [1]

Architect Aldo Rossi is not unique in having theorized about the relationship between the relative fixedness of built form and the flexibility of real time. A distinction between Rossi's work and some recent attempts is that his sense of real time is not linear or necessarily progressive. For Rossi, the city's present is not a fixed time frame into which fragments of the past are reintroduced in lieu of a past which can never be relived (post-modernism). Nor is it a station point from which extrapolations into the future are projected in search of a mythical progressive tomorrow (modernism). Rather, Rossi thinks of the city as the house of memory - as a record of the events and processes which have produced its architecture. He taps into the city analogously and typologically, and produces forms which demand multiple interpretations. Past, present, and future are overlaid in his architecture of memory. There is only one internal time of no particular tense, and no particular direction, which operates in the internal analogous city "of no place."

Rossi's 1971 addition to a 19th century cemetery in Modena, Italy is a compelling concretization of his ideas. The competition design, selected by the jury for its serenity, consists of four primary forms: a large hollow cube intended to be a war memorial, a stepped triangular grouping of multi-storied tombs, a low U-shaped tomb, and a truncated cone containing an amphitheater and common grave. The Modena Cemetery is a place for the dead which is only understood in relationship to the city of the living. It is a repository for bodies which is analogous to and which provides an understanding of the city, "in itself a repository of history." [2]

There are different customs and forms for the places of death as for those of life, but often we hardly grasp the boundary between the two conditions. [3]

Rossi notes the ambivalent nature of the relationship between life and death, pointing out that although the two states are seemingly polar, they are also oscillatory.

The City of the Dead as the City of the Living: Aldo Rossi's Modena Cemetery
By Deborah Thom

Deborah Thom is a Master of Architecture degree candidate at the University of Michigan.

The distinction between the institutions or forms of life and those of death is blurred. The mediator - the membrane through which both life (the present) and death (history) can pass - is the city. Rossi uses the principles which organize the city to structure his design for the Modena cemetery.[4] Included in these principles are building types, institutions, streets and grids.

Like other public buildings, the example of the cemetery as an architectonic site is able to form part of the collective memory and will of the city.[5]

The dominant forms - the cube, the triangular grouping of tombs and the cone - are distilled transformations of urban forms and their corresponding types. The life of the city is made present by its physical negation. Rossi describes the cube as having "the structure of a house without floors and without roofs; the windows have no mullions, it is merely the house of the dead, it is an incomplete house, therefore abandoned."[6]

The triangular grouping of tombs incorporates the housing district and the street. The rectangular blocks of "housing" face each other across narrow streets. Rossi's arrangement refers to an urban plan by DaVinci.[7] Again these forms exist to be negated. The house is abandoned and the streets are empty. They wait to be populated by memories of departed loved ones and recollections of vital homes.

Whereas the first two elements incorporate the typology of dwelling, the truncated cone incorporates the typology of work. Rossi describes it as a "large chimney"[8] or a smokestack. The stillness
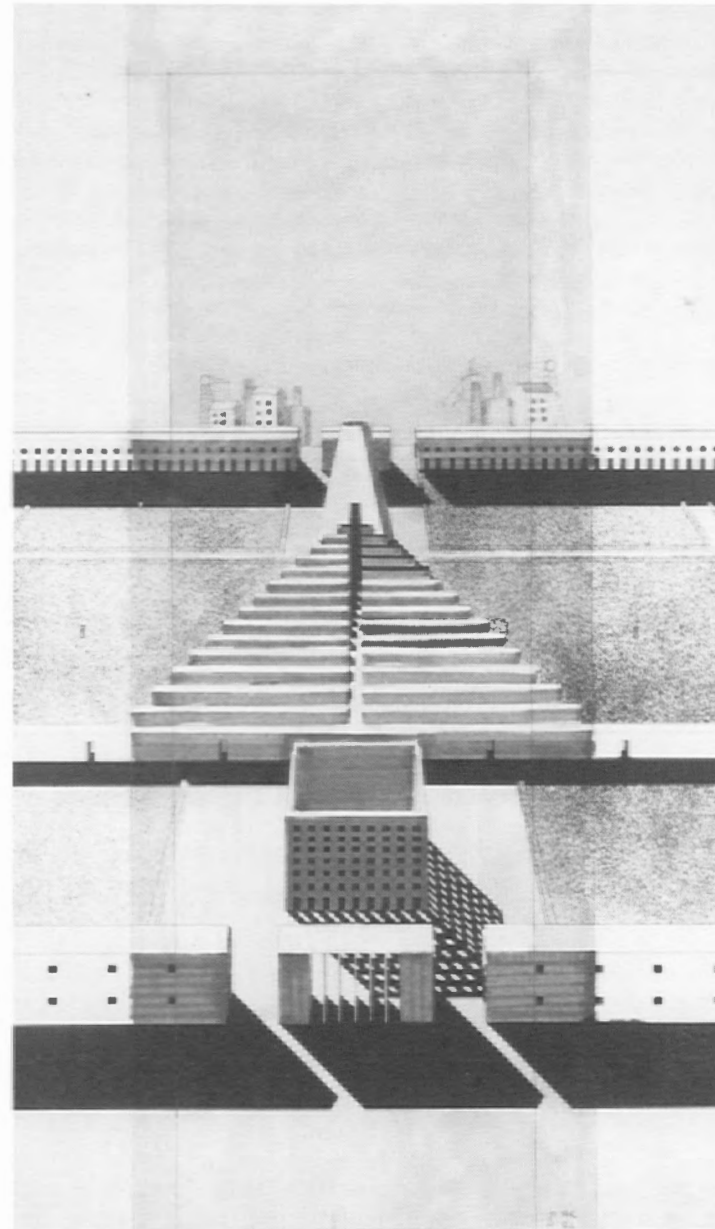
and silence in this communal grave serve to intensify the memory of an active and productive industrial city.

The group of buildings described is like a city; in the city the private relationship with death becomes once again a civic relationship with the institution. The cemetery is therefore still a public building....[9]

Because the collective is so crucial to Rossi's architecture, he incorporates its transcendent forms. He goes further to include its unifying institutions. Lamenting the days when "certainly great architects of the past saw the tomb and cemetery as the exultation of history," Rossi seeks to revive this civic sense of death. The cube, as well as being an abandoned house, is the space where formal funerary rituals are performed. "The shrine belongs to a collectivity as does the whole cemetery; it is an urban monument and represents the relationship of the institution with death."[10]

The cone stands as a reminder and a critique of urban institutions. The bodies of indigent citizens are to be buried under the feet of those attending services in the amphitheater. The living share the space with the unwanted dead whose presence prompts association with the institutions which typically house them, (hospitals, asylums, prisons, orphanages) and also with those systems which victimize them.

...this house of the dead, constructed according to the rhythm of urban mortality itself, has a tempo linked to life, as all structures ultimately do[11]

Rossi goes beyond the creation of images which associate urban forms with burial forms. He states that urban cycles and life processes are synchronized. Again this alleviates the tension between architecture's tendency toward permanence and the city's fluctuation.

The anthropomorphic quality of the configuration indicates the extent to which Rossi has likened urban mortality to the human life cycle. The Modena Cemetery, analogous to the city, is now analogous to the body. The progression through the cemetery buildings is a procession through a body made of bodies. One enters the cemetery and encounters the skeleton/buildings within. The axial move is through the head/house of civic memory, along the spine/street, through the rib cage/housing district, to the culmination phallus/communal grave. The composition is a political statement regarding the life force of society, but more important it is a poetic affirmation of the regenerative aspects of human life[12] and a restatement that Rossi's distilled forms can be continuously exhumed and reborn in collective memory.

...this is the meaning of the architecture of the city; like the figure in the carpet, the figure is clear but everyone reads it in a different way. Or rather, the more clear it is, the more open it is to a complete evolution. [13]

The stark, sparse architecture which Rossi produces is not intended to be barren. It is not out of a disregard for ornament that his forms are so pure. Rather, it is his belief that the clarity of type will allow for infinite enrichments via those who experience the architecture.

In this sense, the physicality of the building does not serve as an opaque symbol of history or meaning, as much as it serves as a lens.

The associations with the city, house, factory, institution and body have already been discussed. The work has also been interpreted in the light of deChirico,[14] Nazi architecture,[15] and Neoclassicism. If Rossi's predictions are correct, the architecture will continue to be analogously interpreted throughout time.

This cemetery scheme does not vary from the idea of a cemetery which each of us possesses[16]

Rossi has developed an architecture through which meanings proliferate through time. The growth of the city and the passage of time are not detrimental. They test and enrich his buildings. The flaw in these theories may lie in the assumption above and with the word "idea." Memory, as a latent sense of history, is one thing, but intellectualization is another. Does everyone have an "idea" about cemetery architecture? Those who do may relish the building as a bracketed, but blank, page. Those who don't may be left to less poetic associations. The shrine may recall a prison, a warehouse, or the concentration camps. Recently, two students at the University of Michigan drew buildings which were virtual replicas of Rossi's cube and labeled them "The Ugliest Building in the World."

This is not to say that there cannot be a common sense of type in architecture. An approach which allows for multiple and variable interpretations is preferable

to one which tries to pick and choose messages. Rossi's offering of architecture as a vessel of meaning– equally capable of dispensing as accepting – is to be hailed.

■
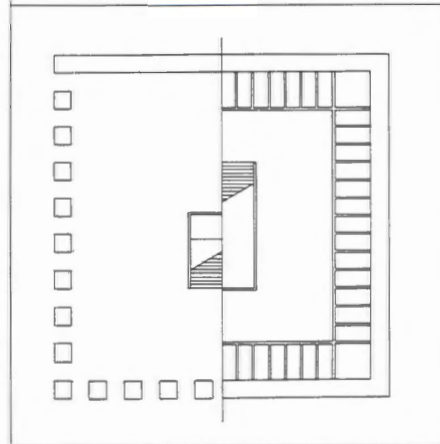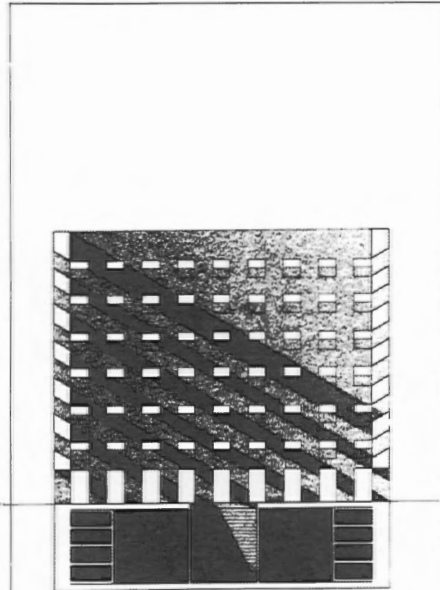
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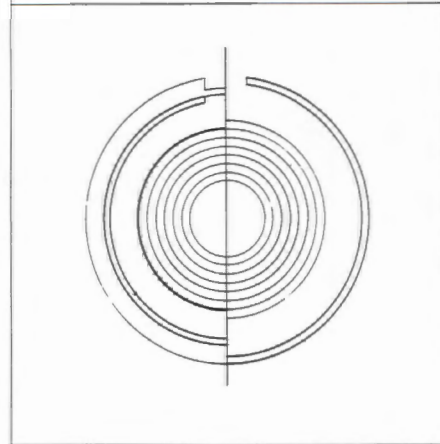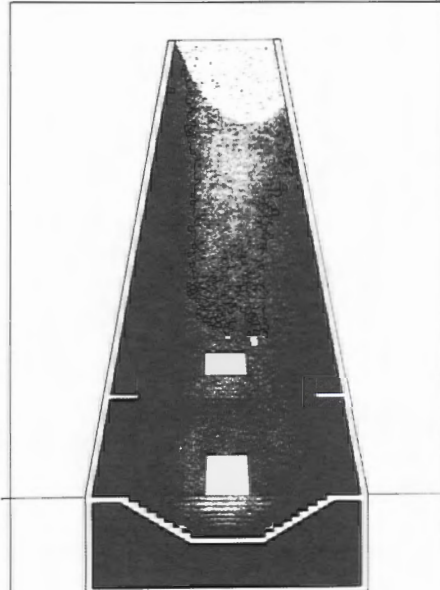
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Notes on text:

[1] Aldo Rossi and Peter Eisenman, Aldo Rossi in America 1976 to 1979 (New York: The Institute for Architecture and Urban Studies, 1979) p. 3.

[2] Aldo Rossi, The Architecture of the City (Cambridge: The MIT Press, 1982) p. 127.

[3] Aldo Rossi, A Scientific Autobiography, trans. L. Venuti (Cambridge: The MIT Press, 1981) p. 15.

[4] For discussion of specific historical precedents, refer to: Eugene Johnson, "What Remains of Man—Also Rossi's Modena Cemetery," *Journal of the Society of Architectural Historians* Vol. 41 (1982): p. 38-54.

[5] Aldo Rossi, "The Blue of the Sky: Modena Cemetery 1971 and 1977," *Architectural Design* Vol. 52 (1982): p. 40.

[6] Ibid., p. 39.

[7] Refer to Eugene Johnson, "What Remains of Man."

[8] Aldo Rossi, "The Blue of the Sky," p. 39.

[9] Ibid., p. 40.

[10] Ibid., p. 39.

[11] Aldo Rossi, A Scientific Autobiography, p. 15.

[12] Eugene Johnson provided an eloquent affirmation of my belief.

[13] Aldo Rossi, The Architecture of the City, p. 19.

[14] Refer to: Rafael Moneo, "Aldo Rossi: The Idea of Architecture and the Modena Cemetery," *Oppositions* Vol. 5 (1976): p. 1-30.

[15] Refer to: Joan Ockman, "The Most Interesting Form of Lie," *Oppositions* Vol. 24 (1981): p. 39-47.

[16] Aldo Rossi, "The Blue of the Sky," p. 39.

Planning and science benefit by their close relationship. Advancements in science provide us with a better understanding of human and environmental processes as well as the analytical methods necessary to translate our knowledge into plans. In return, our planning skills often provide important foresight when considering the possible impacts of proposed scientific endeavors.

Unfortunately, the relationship between science and planning is seldom balanced or complete and often lacks the control mechanisms necessary to prevent major errors in human judgment. We must live with the consequences of these errors; and as the power of science and the scope of planning continues to increase, their potential impact on human and environmental processes also becomes greater. One need not look far to see the magnitude of these impacts. The news media is dominated by accounts of toxic releases, oil spills, and equatorial deforestation in the natural environment; homelessness, blight, and failing infrastructure in the urban environment; and crumbling economies and governments throughout the world. The current era of experimentation with inappropriate technologies and utopian social ideologies may be ending because we can no longer afford the costs of major planning failures.

Recent insights gained from science concerning the evolutionary nature of complex systems suggest an alternative role for planners. Scientists have recently discovered that certain combinations of chemicals under the right conditions behave in lifelike ways. Analysis has revealed that the observable patterns of these systems, called dissipative structures,[1] cannot be explained in terms of predictable chemical reactions between the constituents. Instead, the observable behavior is believed to emerge from many unobservable interactions between constituents of a system. The significance of this finding was not realized until similar behavior was found in the domains of neurology, cybernetics, mathematics, and *complex social systems*. Now social scientists are anxious to understand how this phenomenon can explain the unpredictable nature of large organizations, cities and nations. For example, some aspects of urban growth and decline follow rules that we can learn and use for traditional planning purposes (e.g., certain market influences), whereas other aspects behave as dissipative structures and are not directly related to past behavior. Many of the observable characteristics of a city, such as population distribution and rates of change, clarity of the urban image and organization, may emerge from the complex interactions of the many elements making up the system and not require overriding rules such as zoning ordinances and tax structures that attempt to govern the collective behavior. Urban planners will never be able to predict the eventual outcomes of urban processes or successfully apply an urban "Master Plan" as long as the criteria for success are based on a static vision of the city. Science tells us that all we can know about the city is represented by its current state and its *process* of growth and decline. Accordingly, any measures of success or failure must be sensitive to the incremental rightness of our progress in terms of fundamental human values. Planners can no longer presume to know the form that an "ideal" city should have, but must work toward engendering positive processes of urban growth - trusting that what emerges from these healthy processes will respond to the needs and values of

The Unfolding Play of Life and the Role of Urban Planners

By David Lantrip

David Lantrip is a Doctoral student in the Urban Technological and Environmental Planning program.

the greatest proportion of the participants.

Ben Johnson once said that "Life is like a play." This analogy is useful for understanding the new role that planners can have in the unfolding of the future. The following 'scenes' from the "Play of Life" will describe the three conditions that are required to produce emergent behavior within complex systems, and why it may be the role of urban planners to foster these conditions within institutions and cities. Each scene has a backdrop of conditions that engender emergent behavior, a cast of players, and a script that encourages their interaction in meaningful ways.

Scene 1: A University is More Than Diversity

March 1989: Imagine a drizzly, icy day. A University President stops his writing momentarily and reflects... terrorist bomb threats, drug testing, accusations of faculty impropriety and inadequate minority recruiting efforts. All of these issues seem to tie into the theme of diversity. The University is diverse.

"We can create a model here of how a more diverse and pluralistic community can work for our society... We must live together as individuals and groups, respecting differences and even valuing and drawing strength from them at the same time that we forge bonds of community that allow us to pursue our common purposes."[2]

In the 1950's it was a popular notion that society was like a big "melting pot." It effectively melted down the differences between people as it assimilated immigrants with diverse ethnic and socio-economic origins. The idea was simple and appealing to the sense of national identity that followed World War II. The Civil Rights Movement swept away the melting pot notion and replaced it with one promoting "integration" and equal participation. Unlike the "melting pot" notion, integration emphasized pride in one's ethnic heritage. President Carter gave further recognition to the importance of ethnic identity in the 1970's when he encouraged "ethnic purity" in communities. Although the phrase received a great deal of bad press at the time, it was intended to reinforce pride in one's unique differences.

Recently, the concept of "diversity" has been championed by university Presidents, financial advisors and scientists, among others, as a source of strength and stability for institutional, social, and biological systems. For example, one of the arguments for stopping the destruction of equatorial rain forests has been to prevent the irretrievable loss of yet undiscovered species of plant and animal life. The concern is that a shrinking "gene pool," or decreasing diversity of life on Earth, reduces the future quality of life.

Integration, identity, and diversity are essential aspects of the same paradigm. Their order of introduction and acceptance in society marks an expanding awareness of the life's intricacies and the importance of all the contributions of Life's players in the unfolding play. *Integration* acknowledges the added value of living and working with others. The integration of society in the name of civil rights is necessary to give power to those actors who must play a role and yet are often excluded from full participation. *Identity* represents each individual or group as uniquely valuable and validates each contribution to society. *Diversity* recognizes that the inclusion of as many different identities as possible is important for a society to diversify its strategy and to grow to its full potential.

Like the scenes of a play, the full meaning of these concepts becomes accessible when seen in relationship. Thus, identity enables unique contributions, diversity ensures a sufficient supply of these unique differences, and integration empowers each unique element to influence change through interaction with others. For example, "academic freedom" is the hallmark of universities and protects the right of independent expression of ideas without fear of reprisal (i.e., identity), ensures a balance of intellectual opinion through nondiscriminatory hiring and admittance policies (i.e., diversity) and provides a forum for debate through the academic press and incentives to publish one's work (i.e., integration).

At every level of our existence - from molecules to universities to urban centers - the continued growth of a system will depend on achieving the proper balance of the conditions described by these three concepts. The University must rely on the perfection of process because there is no product in the conventional meaning of the word. The science of knowledge is a science of methods, procedures and tradition. It holds that truth may only be known when the process of truth-seeking has been

perfected. Thus, there is no beginning or end to the process; no right or wrong or other value judgment to be made regarding outcomes. Planners must follow the example of the university President and reaffirm the intent to improve the process - to renew the balance between identity, diversity and integration - and measure our progress in relation to their success at achieving this goal.

SCENE 2: EMERGENCE

A dish, thinly spread with a lightly colored liquid, sits quietly for a moment after its preparation. The liquid is then suddenly swept by a spontaneous burst of colored centers of chemical activity. Each newly formed region creates an expanding pattern of concentric, circular rings. These collide with neighboring waves but never penetrate. In some rare cases rotating one-, two-, or three-armed spirals may emerge. Each pattern grows, impinging on its neighboring patterns, winning on some fronts and losing on others, organizing the entire surface into a unique pattern. Finally, the patterns decay and the system dies, as secondary reactions drain the flow of the primary reaction. [3]

The observable changes in the chemicals of the petri dish are life like in their beauty and complexity. Like snowflakes, the patterns are unlikely to repeat yet they are not completely random. They form as an inevitable, instantaneous response to dynamic conditions within their environment. Each element of the chemical system has innate properties, or an identity, such that when it is integrated with other

elements of similar and diverse properties, it responds according to known rules of interaction. Sometimes the rules are stochastic and merely represent the probability that one of a small set of alternative responses will occur. But regardless of whether the response is deterministic or stochastic, the rules are always very simple and rarely allow more than a few options for each element.

This simple process shows that before the Play can begin, the stage must be set carefully with independent players and a script for their interactions. In this scene, the setting is the petri dish with its boundaries and thermal and chemical properties, the players are the molecules of each chemical ingredient and the script is the chemical laws which describe the known interactions between chemicals. In Scene 1, the setting was the university campus with its diverse community of specialized scholars and the script is the perennial debate over academic freedom, minority recruiting efforts, etc.

Although every detail of the stage, players and scripts may be carefully planned, no two runs of a scene will ever turn out the same way. All complex behavior - even life itself - is a property of the momentary organization of elements, rather than a property of the elements themselves. Similarly, what we observe as incredibly beautiful and ordered global behavior actually "emerges" out of the diverse and often chaotic local behavior of the many interacting elements. Nowhere in the script is there a description of how all the characters are to look acting together at once. Instead, the most memorable scenes emerge from the many

interactions between the individual players and the setting. A planner of these scenes must be content with careful preparations and then be willing to let the uncontrollable process unfold to reveal its wonderful mysteries.

Recent research has linked the "emergent" behavior of some systems with their level of "complexity." In the words of a U.C. San Diego research physicist and a Harvard Medical School researcher:

....we have seen that irregularity, when admitted as fundamental rather than treated as a pathological deviation from some classical ideal, can paradoxically suggest a more powerful unifying theory. [4]

For example, researchers in the biological sciences are reporting that genetic diversity is an important measure of species resilience and evolutionary potential. Similar views are being expressed by social scientists concerning the viability of human ecosystems. Thus, a general statement of the emergence phenomenon is that a sufficiently complex system - that is one which meets the conditions of diversity, identity and integration - can evolve into a more highly ordered system.

If we can assume that many of the complex systems such as cities, transportation and communication networks have emergent properties as described above, then there is good reason to re-evaluate many of the centralized or "top-down" approaches to planning that originate at the top of the decision making heirarchy, and that are common in institutions and governments around the

world. *I propose that this scientific paradigm of "emergence" must fundamentally alter the role and methods of planning.* There must be a heightened recognition of how process differs from outcomes and of the problems inherent in attempting to link them causally. The role of planning must move more toward an understanding and facilitation of social processes while working in the field, or from the "bottom up," and with less specification of envisioned results. Less emphasis must be placed on short term solutions in favor of establishing healthy processes with unknown long term benefits.

SCENE 3: THE URBAN GHETTO

Washington, D.C.: "The U-Street" district where the riots following the death of Martin Luther King were most destructive. Several important community landmarks are still located on this historic artery. Of these is the Lincoln Theater where Louis Armstrong, Sara Vaughn, Marian Anderson and other famous Black entertainers would inspire both adult and youth through the spirit and power of their performances.

Fran Cohen, a white, wealthy woman has proposed to renovate the Lincoln Theater and redevelop several blocks around it for mixed use and low income housing according to guidelines set by the community. She is widely mistrusted by the community, but eventually allowed to proceed. Some accuse the black Mayor of favoritism on her behalf.

The theater is revived first and, as a symbol for the community, it begins to restore pride in what once was an important cultural center. To encourage community involvement in the project, Cohen offers to return 50% of profits to the community. The neighborhood

council has organized several citizen committees to work with the development company. The Lincoln Theater and renewed community involvement is a visible sign of a new period of growth and a reaffirmation of the life potential which lies hidden just below the surface and promises to burst forth again with new vigor and beauty.

In this scene, identity is represented by the distinct roles of opposites: the demographics of a ghetto community and a wealthy Jewish woman. Diversity is represented by Fran Cohen, who brings new perspectives, opportunities and resources to the ghetto community, by the old timers' stories of "the old days," by the youth who are allowed to practice "rap" on the stage when it isn't being otherwise used, and by the planners, designers, financiers, negotiators, politicians, tradespeople, and social workers who interact with the community to provide information, skills, and ideas. Integration is represented by the Black Mayor and community council who identify with the community but who nonetheless choose to empower the outsiders to work toward a mutually beneficial arrangement, and by the planners working behind the scenes to identify differences and use them to the advantage of the creative process.

The scene is limited in scope and detail so that the point may be clear: even before an outcome is realized, participation in the planning process is a major benefit to the community. Where the players are independent and free to express their identities and there is a diversity of expression engendered by the circumstances, there is a chance for

innovative interactions to take place. The urban planners in this case were successful to the extent that they were able to identify willing players with a diversity of relevant skills and interests, bring them together in a resource-rich environment and strategically facilitate their interaction. Most important, the planners did not accept responsibility for finding a "cure" for a problem which is a dynamic response to a multitude of factors, most of which are not within the control of any single group. Attempts to alter the physical form of the ghetto, without facilitating change in the integral social processes that create it, would have resulted in short term cosmetics at best and would ultimately reinforce ghetto-causing processes. As with a play or a chemical reaction, the process of emergence is never the same or fully predictable. However, if the process is an appropriate one, then any outcome becomes far less important.

CONCLUSION

The dynamic relationship between human tendencies and the physical environment is what creates form. A virtual field of interacting forces within an urban context from time to time and point to point coalesces into lasting, stable structures which we might call "home," "university," "city," or "ghetto." The ordering of the environment is a human evolutionary process and a natural and integral part of living. Modern difficulties in planning or designing environments that embrace and nurture human needs might be characterized as a failure to recognize the emergent properties of complex living systems. For example,

the concept of improving the 'quality of life' - an often stated goal of planners - involves both the needs and goals of people and the physical settings for those goals. The achievement of goals and the ultimate satisfaction of fundamental objectives entail the maintenance of a balance between the inhabitants and the environment of which they are a part. This balance must be accomplished on the levels of individual, group and society at the same time in order to achieve indivdual and collective goals. Each participant modifies the environment in order to achieve goals, but the goals and attitudes of each participant must in turn be changed in the process in order to sustain a relationship with the evolving environment. Individual and environmental processes continue together because it is by their interaction that stability may be maintained between the changing goals of the inhabitants and the changing environment. In the words of Christopher Alexander:

[the timeless way of building] is a process through which the order of a building or a town grows out directly from the inner nature of the people, and the animals, and plants, and matter which are in it. It is a process which allows the life inside a person, or a family, or a town, to flourish, openly, in freedom, so vividly that it gives birth, of its own accord, to the natural order which is needed to sustain this life. [5]

This view of urban process challenges urban planners and schools of Urban Planning to become scholars of the human heart; to study and identify the needs and goals of the people that must

be the co-creators of any urban plan. The profession must foster a systems view of the forces that shape urban form such that plans are formulated to include every aspect of society - socioeconomic, political, religious/spiritual, ethnic, professional, etc. Contrary to the popular view that influential planners must sit in governmental policy-making positions, urban planners must be encouraged to work in the field with those who are most effected by the urban processes underway. The planning profession must establish a bottom-up approach to planning that places the greatest weight on recommendations made by those in the field. Planners need to stay abreast of the progress of science in order to take advantage of new insights into the behavior of social systems. Finally, a primary objective of urban planning must be to enfranchise all segments of society; to engender diversity, integration and identity as the preconditions for appropriate urban growth. Once set in motion, this participatory process will evolve and generate solutions without the limitations of any single element or coalition of society. Urban form that results from such an emergent process may not look like visionary renderings, but it will certainly vibrate with the life forces that create and recreate it. ■

Notes on text:
[1] I. Prigogine and I. Stengers, Order Out of Chaos (New York: Bantam Inc., 1984).
[2] President Duderstadt, University of Michigan, 1989.
[3] Barry F. Madore and Wendy L. Freedman, "Self Organizing Structures," *American Scientist* 75 (1987): p. 252-259.
[4] Bruce West and Ary L. Goldberger, "Physiology in Fractal Dimeinsions," *American Scientist* 75 (1987): p. 345-365.
[5] Christopher Alexander, The Timeless Way of Building (New York: Oxford University Press, 1982).

# Trading Cities
Daniel Aquino Lichauco

The sixth city Maria Lucina sits on a bay bordered by the river Elena. The river winds its way thru the city creating a physical barrier that separates the old from the new. A traveler, weary from his sea journeys is confronted by an image of the city united amidst otherwise diametric characteristics that make it whole.

Passing thru the port gates, one sees his reflection in the seemingly haphazard canals that run thru the city. Against this reflection is juxtaposed the image of the buildings and its inhabitants. Motion, mannerisms, typological forms that personify the life of the city.

An old man sits in a square selling exotic fruit from lands far away. Dapper young men and women scurry about with an aura of importance and self confidence. The hustlers, con-men, movers and shakers all play a role in the city scene. But what sets this city apart? Its fast pace, thick atmosphere of urgency? Amidst all these images lies a cryptic message, evident but yet elusive. Characteristics of the city born out of an inherent need present but subliminal in its manifestations. Confusion, clarity, precision, abstraction all working toward a common goal: .trade.

Beyond the old city a paradox exists. Confusion of form, space and mass is replaced by order. Buildings reach out to the sky with arrogant gestures of importance. Uniformity and regularity exists as the rule, un-natural, harsh and inhuman. Masses appear that engulf and subdue the landscape excluding nature from the everyday life of the inhabitants. All of these oppose yet complement each other; but to what degree? Emptiness abounds beyond the river, satellite towns abandoned yet well maintained monuments to past ideas.

Beneath all these images lie an utopian desire. Ironically, it has not been realized as the ideal place envisioned, for the propagation of trade and commerce lie in the old part of the city. Its lessons from history serve as a guide toward the elusive urban dream and sit underneath their noses ignored for the novel ideas of the times.


MARIA LUCINA
THE SIXTH CITY OF TRADE
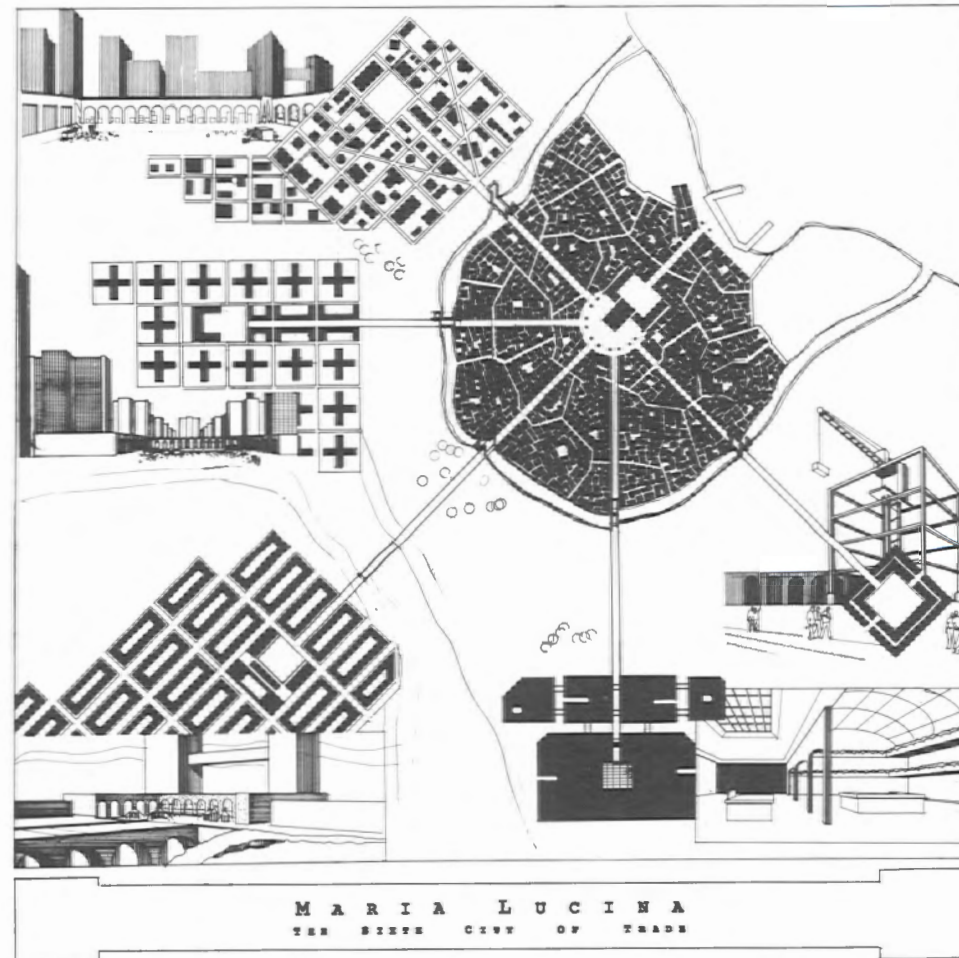
Maria Lucina, the city of trade, seen in its entirety. The old, friendly, warm and exciting against the new, harsh, cold, and monotonous. Ordered well defined spaces as opposed to vague unspecific areas. All livable, but to what extent? Experiments in urbanism once appreciated then replaced for something novel and new; ironically all leading back to the beginning.
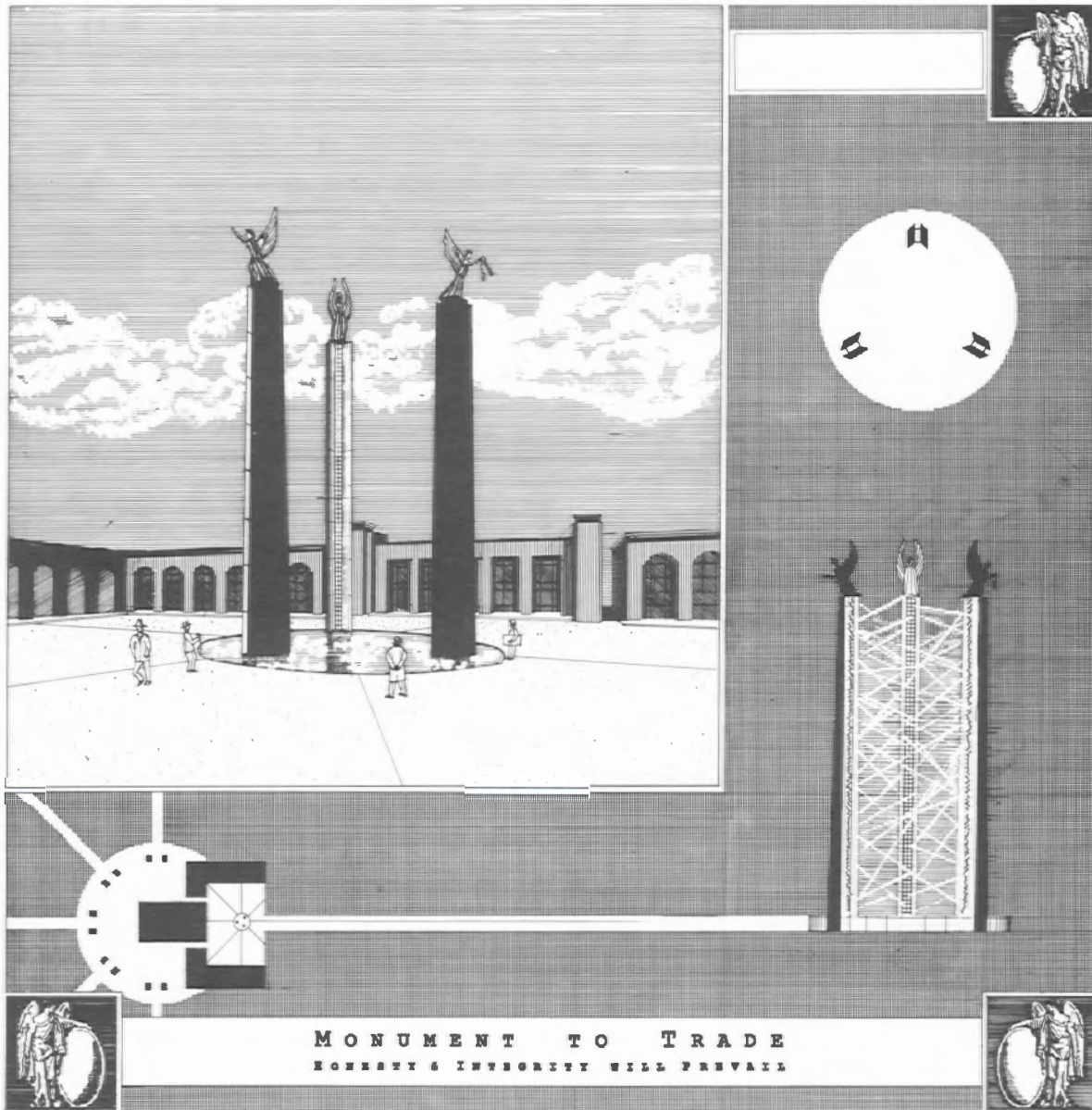
MONUMENT TO TRADE

HONESTY & INTEGRITY WILL PREVAIL

The monument to trade. Guarding the city, its life and its ideals. Angels dedicated to land, sea and air. Hovering over the cities, protecting, ensuring, guiding trade. The purity of light in its midst, a symbol of honesty and integrity sought by all.
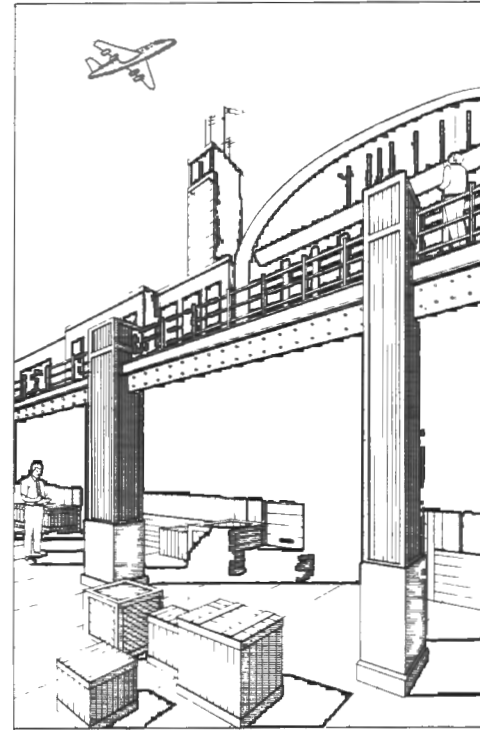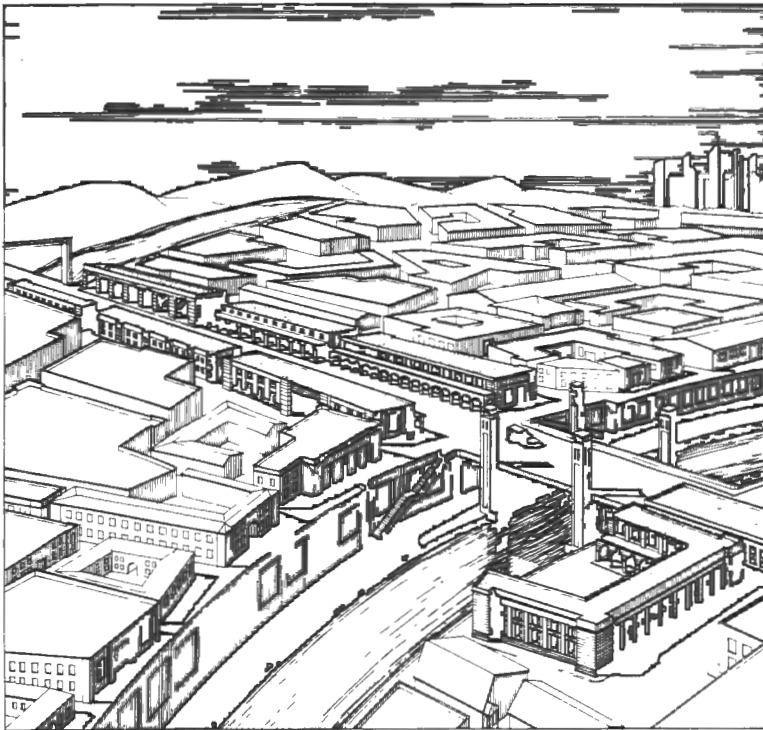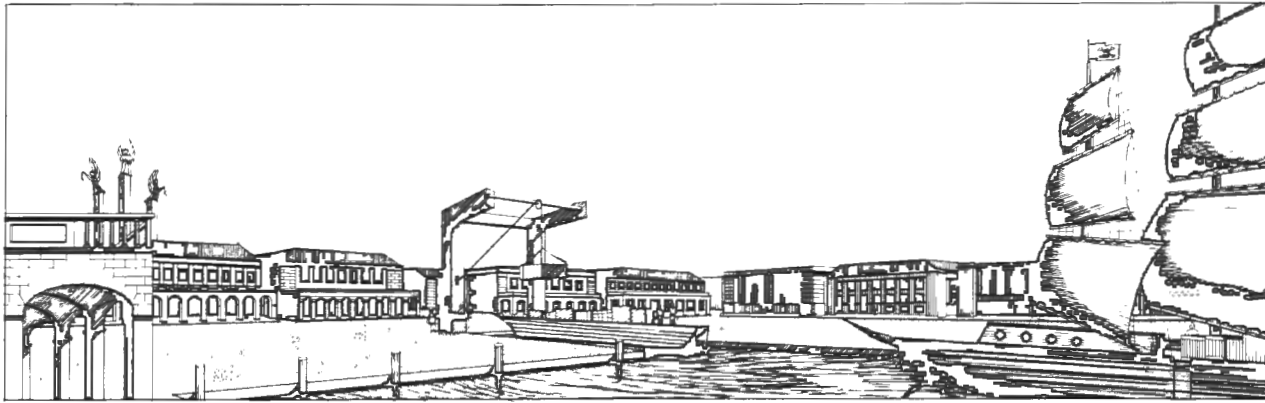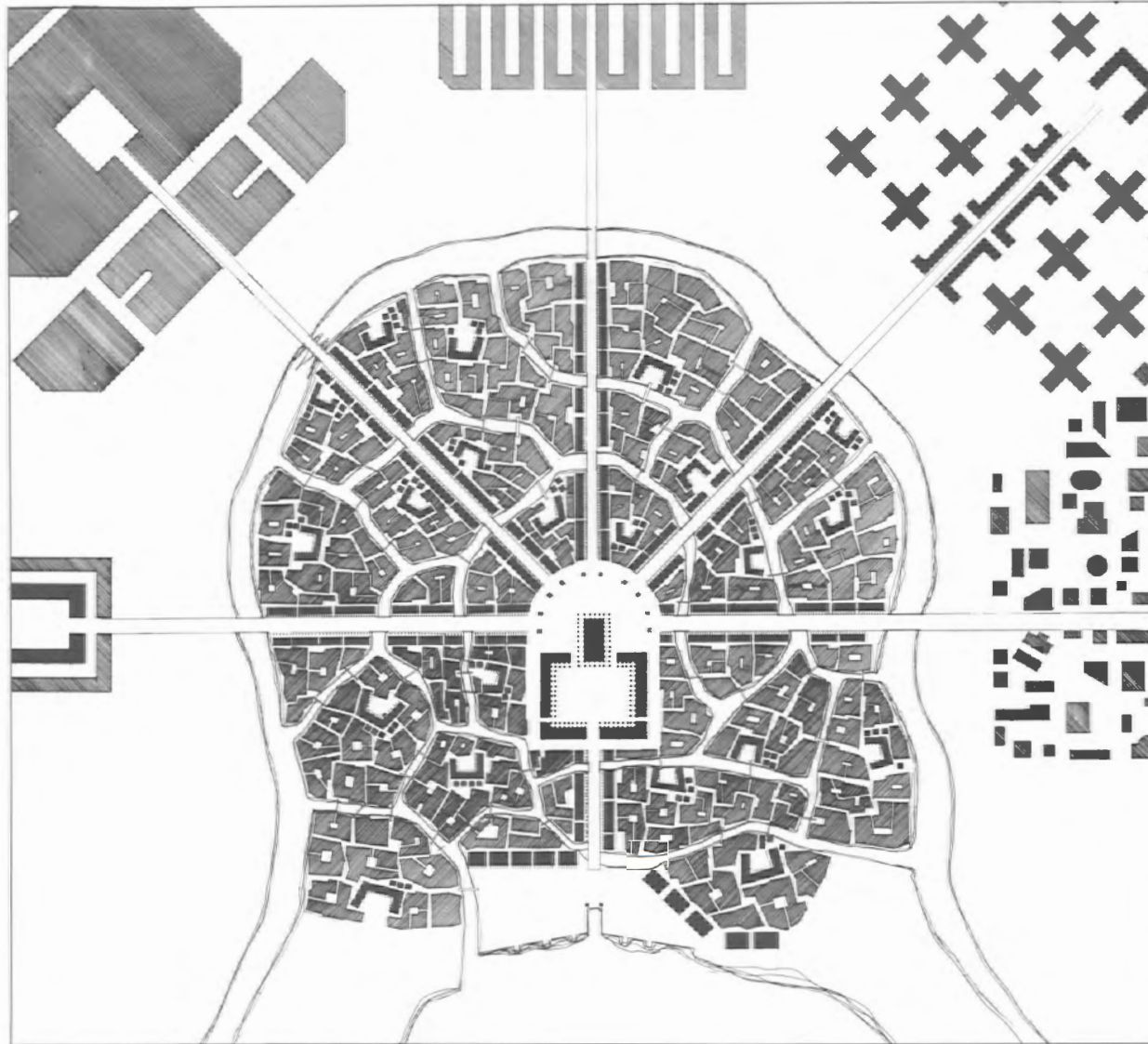
Communications, an essential element to commerce. By land, sea and air. Goods travel in this media of transport creating the reality which is trade. Traditional vehicles for exchange modified and improved to better meet the growing need. Modes of transportation that reduce distance.
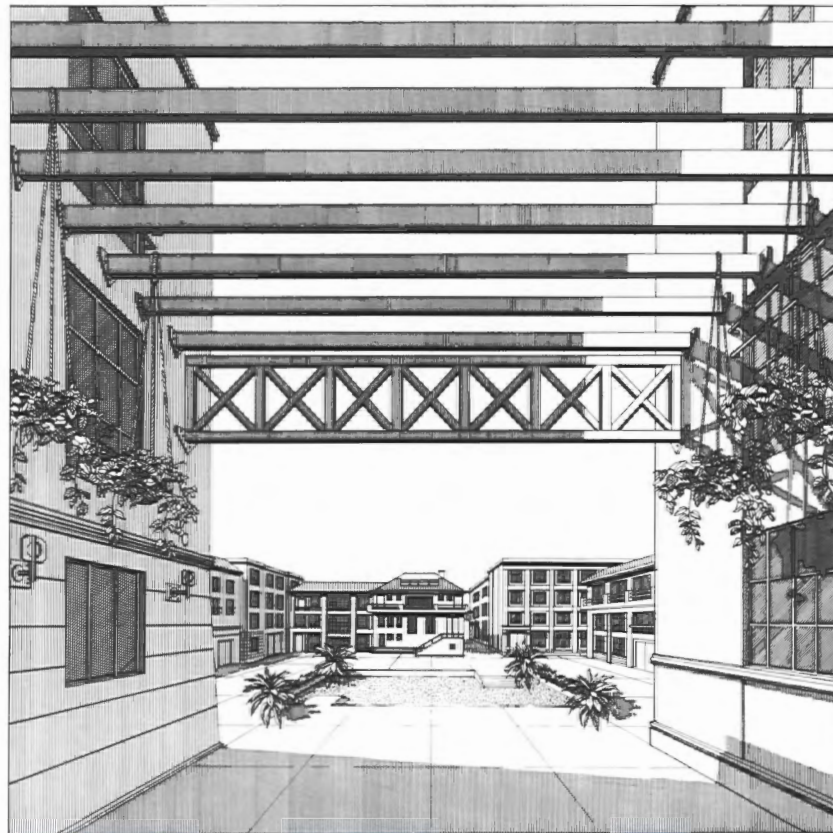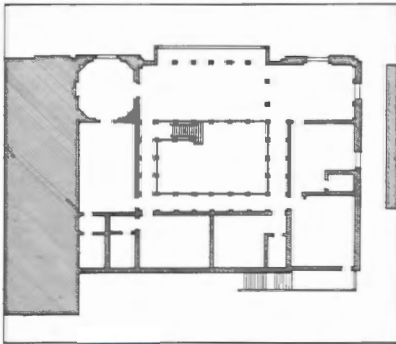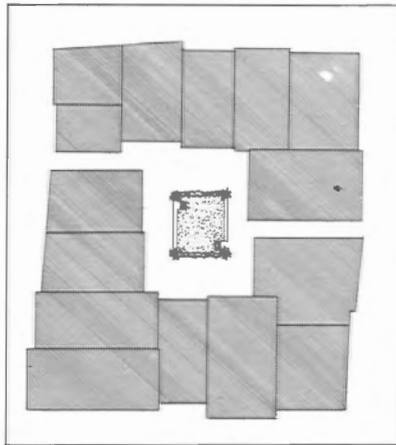
FIGURE GROUND
MORPHOLOGICAL DISTINCTIONS

The old city, the trade centers defining the inherent hierarchy. Unity and disparity working together for variety and interest toward a common end. Exchange, the lifeblood of commerce and the backbone of the city is personified in use plan and form; communication an integral part of the whole.

THE PRIVATE REALM
RESIDENCES OF MERCHANT PRINCES

The private realm, home of the merchant princes where privacy is an absolute. The home becomes an extension of the work place making it accessible at all times. Is it an obsession? Practical or necessary? It is unsure why but it is still an integral part in the city life.
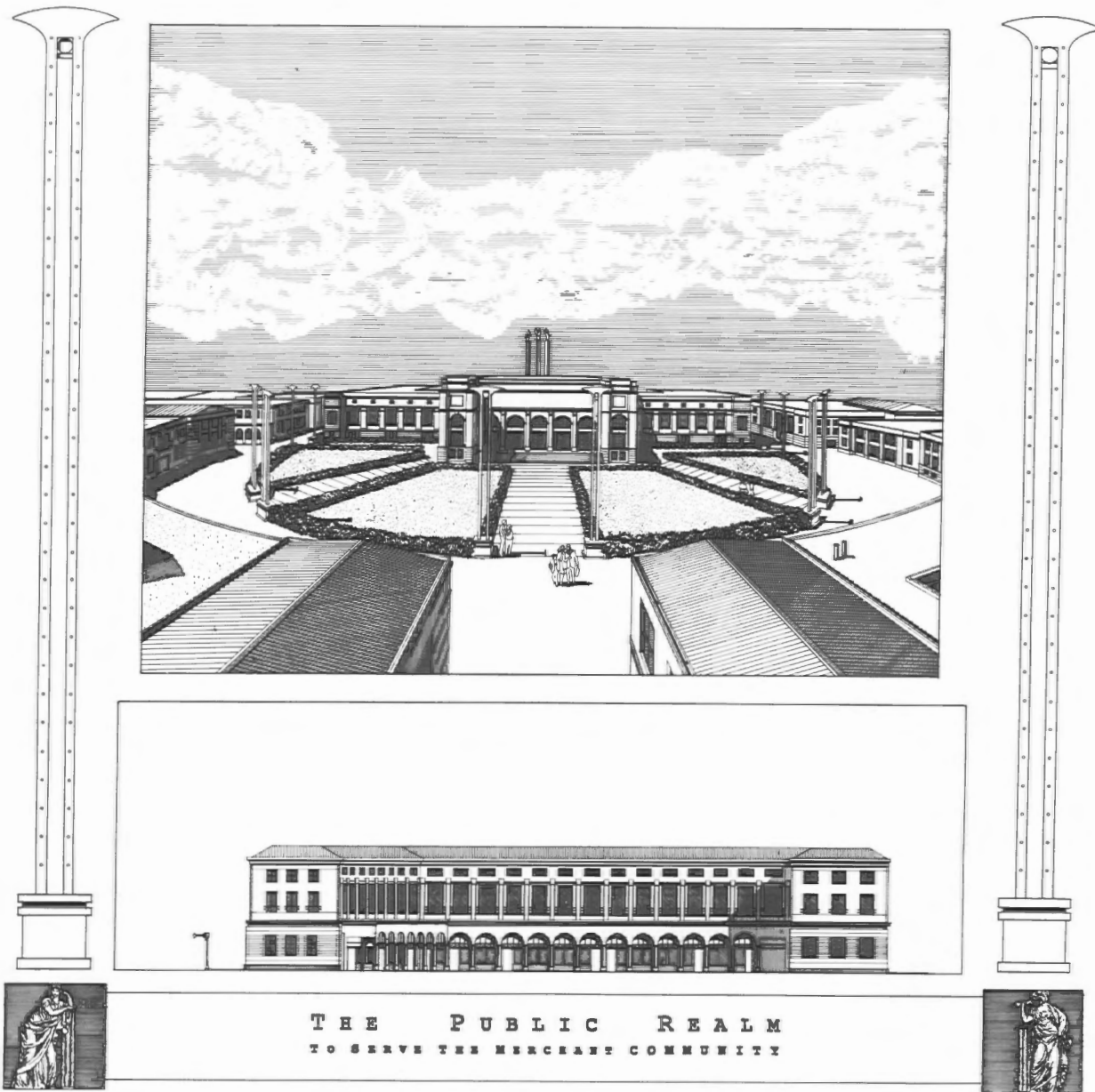
THE   PUBLIC   REALM
TO SERVE THE MERCHANT COMMUNITY

The public realms, well defined but in one case inabsolute. The first becomes both work and home where, unlike the private realm, the former dominates. The second is to the extreme, public space in its pure sense used for the good of the majority. The nerve center of the city; important and dignified.

About the Environment and Our Responsibility
by Kurt Brandle

Kurt Brandle, AIA is a professor in the College of Architecture and Urban Planning. He specializes in building technology and design. Since 1983, he has directed the University of Michigan's Energy Cost Avoidance Project.

Those of us old enough may remember the days in the 1970s when we stood in line to get gasoline at the pumps or heard thePresident of this country asking us to lower our thermostats to conserve heating fuel. After a decade of efforts to save energy, the private sector and the government have all but forgotten the lessons from these years. And what becomes increasingly clear is that we are making our planet uninhabitable. The waste disposal situation and the atmospheric greenhouse effect are only the latest signs.

These signs are part of our energy crisis that did not start in 1973 and did not end in the 1980's. It started with the industrial revolution when many of our ancestors thought that the earth's resources were to be had for the taking. Not much has changed in this respect. "Economic growth" is the motto of governments and chambers of commerce in developed and developing countries. Uncontrolled, this growth will destroy us, as our natural resources decrease and the quality of our soil, air and water deteriorates.

The ever-increasing production is no longer achieved through intensive physical labor, but through material input and machines. This production is largely based on the depletion of existing, non-renewable resources and on the pollution of the environment. Under these conditions and with the increase of the world's population and the aspirations of all to achieve "developed" status, the present world economy will not be able to cope, and belligerence will arise between nations competing for survival.

This view is frightening. Where are the economists, not to speak of the

politicians, who have the guts to tell us that we cannot go on maximizing profits on the back of natural resources? The conservation of non-renewable resources and the use of renewable resources must gain priority. This will undoubtedly put significant constraints on how we make decisions, privately and corporately.

The problem must also be considered in connection with the outlook for reduced military spending. The economic conversion from weapons production to consumer goods requires careful planning on local, national and international levels.[1] While the consumption of goods increases, their production and use must be made less and less damaging to the environment.

In efforts to change our wasteful ways, we as architects and planners can play a crucial role. If we do not grasp this opportunity, we are not worthy to be counted among those whose training and profession it is to enhance our lives and environments. A few scenarios in which we are uniquely qualified to bring about change will help our understanding:

• We must help to enact zoning laws that allow for greater residential building densities, including a broader mix of housing types, and we must find ways that allow people to work closer to their homes. This will not only reduce gasoline consumption and related pollution but also will reduce the costs for streets and municipal services, and therefore our tax burden. Master planning with such objectives will increase the energy efficiency of our infrastructure, especially with regard to our public transportation systems. Western

Europe's per capita energy consumption of approximately one half of that in this country, achieved without reduction in living standards, is in part a consequence of such planning.[2]

• We must advocate the installation of solar service water heaters on every new building. These units are cost effective but their technology is not sufficiently understood. Solar energy comes to earth abundantly and can be absorbed by such units all year. They do not create heat pollution as they use the heat that falls on earth anyway. In contrast, nuclear energy is not a viable solution. The nuclear waste problem is not solved, and nuclear power is a thermal polluter. Actually, the worst that could happen, at our present way of living, is the development of an unlimited and cheap fuel source, nuclear or not. Unconstrained energy use would lead to disastrous heat pollution, as all fuel conversion ends up heating the environment.

• We must get away from the prevalent first cost mentality and move more to life-cycle costing. As a profession we must make our clients aware of the enormous savings that can be achieved over the lifetime of buildings by means of high quality designs and systems. Studies for systems integration toward improvements in building design, construction and operation must become part of every design sequence.[3] The development of alternative schemes with favorable life-cycle costs requires additional design and engineering services but is justified with regard to

savings of energy and other long term expenses. We must convince building owners and financiers that additional professional fees spent, such as those for energy sensitivity analyses, are economically worthwhile

• We must plan our buildings more efficiently, not just with better insulation, better windows and better orientation to the sun. Every square foot not needed should not be built. Such space represents not only a waste of energy in the production of materials and during the construction process, but also requires a multiple of that energy over its lifetime for heating, cooling, lighting, cleaning, and other operational services. This does not mean that we should stop building for enjoyment or recreation, at times even luxuriously. But the waste, as represented by the millions of square feet of office space standing empty in Houston, Denver, and Boston, can no longer be a concern only of commercial decision-makers. And, if well known architects repeat their designs of office towers all over the world without consideration to climate and to solar radiation, we must protest. These buildings are inadequate before finished. In the not too distant future, they will not only require large amounts of energy to be removed but large landfills to be discarded.

• We transport enormous amounts of goods on individual trucks across the country. Why not ship them in trailers piggy-back on trains and use trucks locally? Oil would be saved, the environment would be less polluted and the people set free for other more

environmentally friendly work. Such a development would also provide the occasion to prepare our inadequate railway infrastructure for highspeed trains.

• If our supermarkets were open only 12 hours rather than 18 or 24, energy for lighting and air conditioning would be saved. Years ago, we lived very well without shopping at midnight.

The last example seems to be a trivial one. But it leads to a central line of thought, for architects and planners as well as for the general public. We pay for the energy use in buildings through the costs of what we buy. In the larger economic context, however, there is a hidden cost: that is the depletion of our natural resources. The same is true for the energy used to produce the goods that we buy, including buildings. Our corporations, through their pricing practices in the so-called competitive market, do not consider the real costs of production. These costs soon and inevitably will have to include the cleaning of the mess that we make of our environment.

These examples - and there are many more - hint at changes that are monumental in economical, sociological and political impact. But the problems are monumental and of utmost urgency. A Band-Aid approach will not do. The situation calls not only for professional, but political leadership by architects and planners. Many of the technologies to solve these problems exist and we must be willing to use them. Many of the problems, however, call not for technical but for ethical decisions. We must learn

not to be so enamored with the beauty of our designs that we cannot see the beauty we may destroy in building these very designs. Where is the ecological spirit in architecture today?

The greenhouse effect, the acidity in rain and snow, and the overflow in our landfills is largely a consequence of waste. Unless we change how we treat our environment, unwelcome changes will be forced upon us that we can hardly imagine. Then, we may be forced to sit in our buildings without windows as there will be nothing to see, to hear the buildings' scrubbers labor as they remove the pollution from the air, and to use electricity from nuclear power to project

some flowers on the wall - in memory of what once was. It must not happen this way. ∎

Notes on Text:
[1] On this subject, see for example: S. Melman, Conversion from Military to Civilian Economy (Washington D.C.: National SANE Education Fund, 1987).

[2] C Flavin, and A. Durning, "Raising Energy Efficiency" in L. R. Brown et al, State of the World (New York: W.W. Norton & Company) p. 42.

[3] Kurt Brandle "Building Envelopes" and "Systems Integration" Encyclopedia of Architecture (New York: John Wiley & Sons 1988/89) Vol. 2, p. 352-372 and Vol. 4, p. 770-787.

Manufactured home communities, more commonly known as mobile home parks, have a bad reputation. Critics assert that mobile homes are unattractive, rapidly depreciate in value, and lower adjacent property values, whereas conventional single-family housing increases in value over time. There may have been some truth to these criticisms in the past, but the quality of manufactured homes has improved dramatically over the past twenty years. With these improvements in standards and design, manufactured housing could well provide a solution to America's biggest housing problem: affordable housing in the inner cities.

Recent studies have shown that housing costs and interest rates have made it very difficult, if not impossible, for families below median income levels to purchase single-family housing.[1] Federal and State agencies have tried to address this issue with Community Development Block Grants and State housing subsidy programs. However, recent federal cut backs have forced a significant reduction in the funds available for affordable housing.[2]

Meanwhile, manufactured housing has become one of the more viable solutions to the problem of affordability, particularly for the elderly, first home buyers, and the low-income family. Although most manufactured home builders are still targeting the lower end of the home-buying market, manufactured homes are now equipped with such features as fireplaces, patios, bay windows, basements, skylights, and more. Today's 700 to 2,000 square foot units, with a variety of features and amenities, are comparable to a conventional site-built single-family home, but at a much more reasonable cost.

Manufactured Homes in the Inner City: A Viable Alternative for Affordable Housing
By Todd Steiss

Todd Steiss is a Master of Urban Planning degree candidate at the University of Michigan.

Two Types of Manufactured Homes

The first basic type of manufactured homes is built to state or local building codes, which are generally based on model codes developed by the Building Officials Conference of America (BOCA). This type of construction can be designed for a single-family or multi-family unit and is commonly referred to as *modular*, *panelized*, or *pre-cut*. Active Homes, Boston, Spacemaker, and General Housing Corporation (GHC) are among the companies that produce manufactured homes which meet BOCA codes. These units have a standard width of 28 feet, range in length from 30 feet to more than 60 feet, and are one or two stories high. The cost to locate one of these homes on a given site will vary with the unit size, city fees, available utilities, and land cost.

The second type of manufactured housing unit is built to standards established by the Department of Housing and Urban Development (HUD) and is inspected by HUD-certified agencies. HUD set relatively high standards for manufactured homes in 1976, including construction, durability, energy efficiency, and safety requirements. These standards usually meet and often exceed those employed for site-built housing.[3] The structure of a HUD approved manufactured home is built on a steel frame, which has certain engineering and design attributes. The unit is given a temporary vehicular classification in order to obtain road permits to transport it from the plant to the home

site. These homes are developed as single-wide or double-wide units with options that provide additional living space, more interior comforts, and exterior features that individualize the home.

Lower Cost Compared to Site-Built Homes

Manufactured homes are not cheaply built. They are inexpensive because materials can be purchased in large volumes and labor costs are lower. Since these homes are built indoors under more controlled conditions, the construction time is shorter and therefore, construction financing costs can be decreased.

Homes can be constructed, transported, and fully operational within 40 days from time of order. The more common site-built home can take anywhere from 90 to 120 or more days to complete. Current estimates show that manufactured homes delivered to a prepared site, on average, cost $25 per square foot less than a comparable site-built home.[4] This price differential has been a primary reason for the significant increase in manufactured home sales over the past 10 years.

Using Hud-Code Housing in the Inner City

A new manufactured home community could be created on undeveloped vacant land owned by the city. Potential sites exist in every city where the housing has been wiped out, either through urban renewal, fire, decay or other reasons. The units could be individually owned by the resident or leased from the city. The city could charge minimum land rents to cover the development financing cost and general operation cost, including municipal services.

Constructing a manufactured community on undeveloped vacant land will normally cost about $10,000 per site at a density of 5 units per acre. This cost includes the roads, utilities, site preparation, landscaping, and any other expense required to complete the development. If the city can finance the project using $10,000 per site at 8% interest for 15 years, the average monthly cost per unit for the development would be $97. Adding a monthly operating cost of $53, which includes garbage pickup, general maintenance, utility service, and taxes, would generate a minimum rent of $150 per month. The $10,000 construction cost per site could be significantly reduced by increasing the density to 7 or 8 units per acre, deleting utility hookup and construction permit fees, and by obtaining any available local, state or federal funding.

A typical home manufactured under the HUD-code has a price range starting from as low as $12,000 to $50,000, with living space of 700 to 1,800 square feet. The average purchase price is about $20,000. Common terms on a new manufactured home loan are 10% down for 15 years, at an interest rate of 12 percent. The purchase of a $20,000 home would require $2,000 down and $220 a month to cover these mortgage terms. The city, however, could purchase the housing units directly from the manufacturer at a discount of as much as

Development Financing			
Construction Cost per Site	$10,000	$10,000	$2,500
Years of Financing	15	15	15
Interest Rate	8%	8%	8%
Financing Cost per Month	$97	$97	$24
Operating Cost per Month	$53	$53	$53
Subtotal	$150	$150	$77
Home Financing			
Purchase Price	$20,000	$15,000	$15,000
Years of Financing	15	15	15
Interest Rate	12%	7.5%	7.5%
Down Payment @ 10%	$2,000		
Down Payment @ 5%	$750	$750	
Financing Cost per Month	$220	$135	$135
Total Cost per Month	$370	$285	$212

*Estimated monthly cost per unit for development, home financing, and operation of manufactured home community. *Operating costs include: Utilities, Garbage Pickup, Taxes, and General Maintenance.*

30%. The city could also administer or guarantee loans with much lower interest rates and smaller down payments. Using a 25% discount rate on a $20,000 home with 5% down and a 7.5% interest rate for 15 years would reduce the monthly cost for purchase to $135. Adding this to the cost to finance and operate the new manufactured home community would generate a total monthly expense of $285. This amount may still be more than many low income families could afford, but several factors must be kept in mind. Mortgage interest is tax deductible, the amount includes utilities and maintenance, and the homes and development will be debt free within 15 years. Once the development is completely paid for, the city may continue charging land rent to finance operating costs.

Some inner cities areas, devastated by the removal of entire neighborhoods, could be redeveloped using HUD-code manufactured homes. Since much of the required infrastructure is already in place, a new community of manufactured homes could cost less than $2500 per site.[6] Typical lot sizes are 40 X 100, which is ideal for this type of housing. City financing for this project, using the same terms as stated earlier, would reduced the cost per unit from $97 to $24 per month. Adding the operation and home purchase cost would set a fixed monthly cost per family of only $212. Using vacant areas with existing infrastructure, however, may reduce the creativity that can be applied to large undeveloped sites.

In view of the negative public attitude toward manufactured housing communities, these developments should be designed with the local public and neighborhood reactions in mind. Suggested design recommendations include: avoid row upon row of homes; create sensitive landscaping; provide amenities for the residents; and give some consideration of the development's context and scale.

Regulation of noise, traffic speed, and parking is important. The value of development regulations must be judged by their effects on controlling and maintaining the standards of the development and by the degree to which they restrict residents or potential residents. All HUD-code manufactured home communities in the State of Michigan must be approved by the Mobile Home Commission. Under the Act, all such communities are required to be initially licensed upon completion of construction, with the license subject to annual renewal. These communities are inspected annually by the State Department of Public Health and are

This site west of the Elmwood Cemetery, where infrastructure is already in place, could be redeveloped using HUD–code manufactured homes.

inspected by the Mobile Home Commission[8] at least once every three years.

Manufactured Housing Park

A neighborhood conservation and development program using HUD-code manufactured homes on an interim basis could also improve lower income areas in the city. This program would be designed to generate revenue fo neighborhood improvements; make good use of city owned vacant land; and upgrade the neighborhood without causing major displacement and gentrification.

Some major cities, such as Detroit, are "banking" vast amounts of vacant land until a future use is proposed, such as an industrial plant or office complex, that will maximize the benefit to the city. Rather than having this land stand vacant for an unknown time, HUD-code manufactured homes could be placed on a selected parcel of land and be rented to low income families. The revenues generated could be used to upgrade nearby neighborhoods.

The training, programing, and administration of a neighborhood improvement project could be established under a federal Neighborhood Housing Service (NHS).[9] With the available revenue, much could be accomplished to remove homes that are beyond repair, rehabilitate existing housing, and introduce new affordable housing. The revenue could also be used to develop parks and clean up vacant sites.

This HUD-code manufactured housing park (MHP) would be an interim development. The families within the MHP would be given first choice of any home which is renovated using the park revenues. If none of the families accept the home, then the offer could be made to other low income families in the areas, or the home could be placed on the open market. The home owner, however, should be predetermined before any new unit is purchased or renovated to limit the possibility of major displacement and gentrification.

After two years, the program could be evaluated. If there is a waiting list to enter the program, the system is working and perhaps should be expanded to other neighborhoods. If there is a rapid turnover of tenants from the MHP to new or upgraded units, then the program could be considered a success. Families in homes needing major repairs could move into the MHP temporarily until their homes are ready for occupancy. When the neighborhood is upgraded and the need for the MHP is resolved, the manufactured units could be relocated to another project area or sold to low income families who would relocate the units in a legal individual lot or park.

There would be no major loss to the city if the project were to fail, because the manufactured homes could be sold and removed. This project is not like public housing where failure leaves the city with expensive empty buildings. If the vacant land can be used for an industry or some other major use, then the homes could be moved to another nearby vacant area.

BOCA-Code Housing as an Alternative

Manufactured homes that meet BOCA code could also be used to develop new communities on undeveloped vacant land or vacant land previously occupied by residential housing. Using BOCA codes increases the variety of housing design and size, but will also increase the cost to the consumer. Units range in price from $31,400 to $70,000, with living space ranging from 840 to 2,000 square feet, excluding the basement area.[10] The price includes delivery, tax, and home placement on a foundation. Additional costs will depend on the size of the housing unit, the availability of public utilities, and the condition of the site. A crawlspace foundation may be preferable over a basement foundation because of the uncertainties of what may exist below grade. A new neighborhood development using BOCA code would not likely be treated the same as a manufactured home community as described earlier. These homes are not inspected by HUD, and the neighborhoods created would not be approved or inspected by the Mobile Home Commission.

BOCA-code manufactured homes could be used to fill vacant lots in existing neighborhoods. Some companies specialize in developing units which will complement the existing homes in a given neighborhood, regardless of whether the neighborhood is historic or contemporary. Most of these vacant lots already have curbing, curb-cuts, and proper utilities available. Manufactured homes built on permanent foundations would be taxed as real property and

therefore, could not take advantage of the lower tax rate which applies to units withi manufactured home communities[11]

Meeting the Challenge

Rather than shuffle manufactured homes into the corner of a jurisdiction, away from the employment centers and away from public services, municipalities should accept the new and improved look of today's manufactured home. Whether the BOCA housing is used or the HUD model, it is clear that here is a type of housing that can solve some major social problems. The problems of homelessness and lack of affordable housing cry out for bold solutions. Manufactured housing is one vital answer. ∎

Manufactured homes such as these units provide options that offer additional living space, more interior comforts, and exterior features that individualize the home.

Notes on Text:

[1] Report of the Michigan Manufactured Housing Task Force (Lansing: Michigan Department of Commerce, June 1989).

[2] Building the Future: Michigan's Affordable Housing Initiative (Lansing: Michigan State Housing Initiative, April 1989).

[3] John Sims, "Outline of Code Comparison: BOCA Basic Building Code/1984 and HUD Manufactured Housing Construction and Safety Standards," (January 1986).

[4] 1989 Quick Facts (Manufactured Housing Institute, August 1989).

[5] Steve Tracy, interview, Scio Farms Estate, January 1990.

[6] Jeff Kellog, (President Chateau Estates), interview, January 1990.

[7] Ken Watkins, Rob Loeper, Van Hunsberger, and Phil Bateman, "Chateau Estates in Howell, Michigan: A Post-occupancy Evaluation of a Manufacturing Housing Community," (April 30, 1986).

[8] Mobile Home Commission Rules (Michigan: Michigan Department of Commerce, Corporations and Securities Bureau, March 1987).

[9] Roger S. Ahlbrant and Paul Brophy, "Neighborhood Housing Services: A Unique Formula Proves Itself in Turning Around Declining Neighborhoods," (January 1976).

[10] Thomas L. Snyder, Price List: Thomas L. Snyder, Inc., (1989).

[11] "Manufactured Housing: Meeting Housing Needs in Your Community," Proceedings of the Building and Planning Officials Seminar (1989).

Continuous Cities
Suzanne Riley

"Welcome to a city that has neither a beginning nor an end," I began as Kublai Khan and I sat on the steps of the palace on a warm and breezy summer evening.

"Welcome to a city that is defined yet undefined," I continued, "urban yet suburban; confined yet free; a city where the elements are identical yet never the same; a city that is constantly in motion, but is frozen in time; a city that is headed somewhere yet goes nowhere. Welcome to Infinitia, oh Great Khan."

Kublai Khan's attention grew as I continued the illustration. "The city takes the shape of a mobius curve upon which the buildings are stacked as in a medieval city or an Italian or Greek hillside town. The city has no top or bottom; no up or down. The face of one building may be adjacent to the court of another building. Infinitia was born with no seasons; neither day nor night, neither morning nor evening."

"How can people live in such a manner without a sense of orientation?" asked Kublai Khan in disbelief.

"Oh, but there is orientation in a unique and special way. Their monument and their senses have seen to that. Our disadvantage is their advantage. They would look to us as inferior beings yet their world is not unlike our own. The streets and piazzas are clean and the air is fresh; the people honest and the children are safe. It is a city based on the concept of a good and civic life. To the inhabitants the city is beautiful and this makes the people happy."

Kublai Khan remained silent for a moment and then asked, "But what about the important things in life?"

Pondering for a moment I then replied with a question meant to be left unanswered, "Yet, what is it that is most important in life, oh wise Khan?"
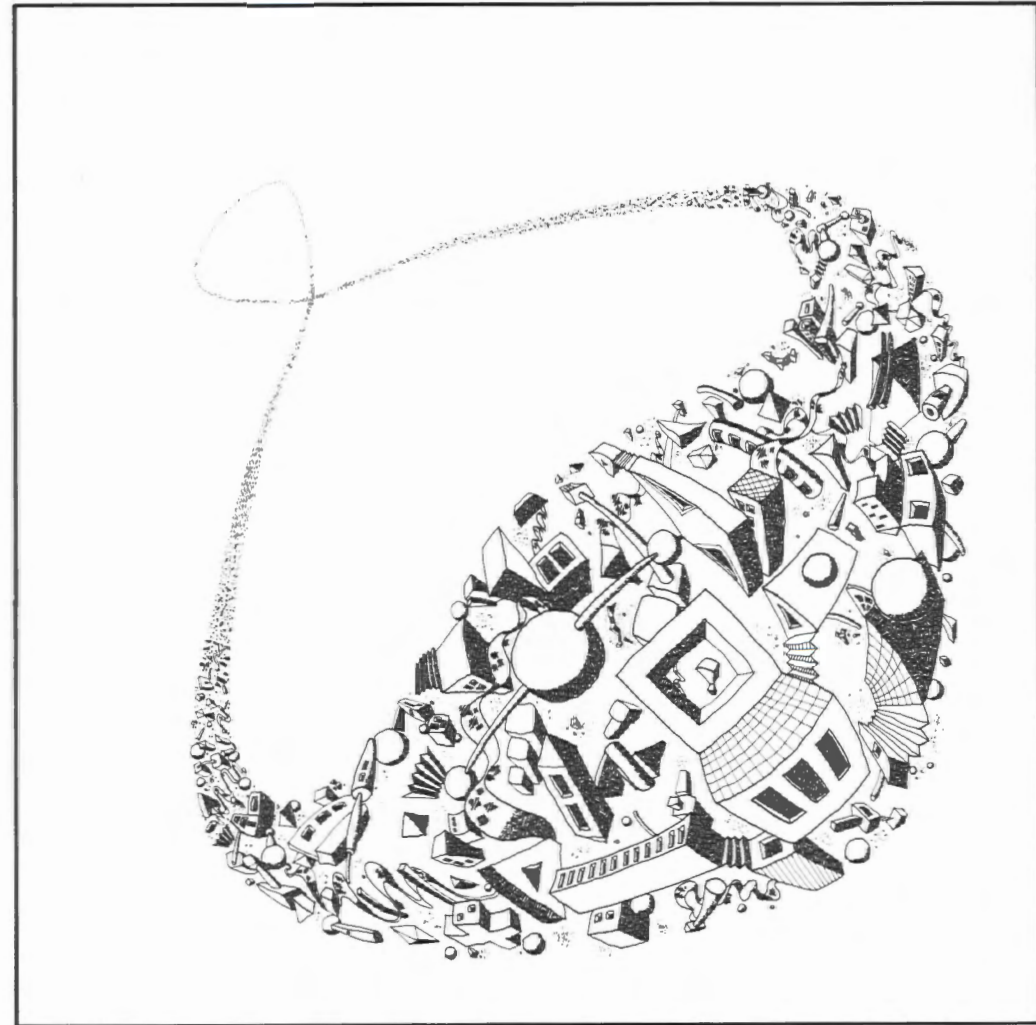
An Eternal City of Transformation
Upon a mobius curve dwell the inhabitants of Infinitia. A city in motion with neither beginning nor end; neither orientation nor time. A society of alienation and confusion.
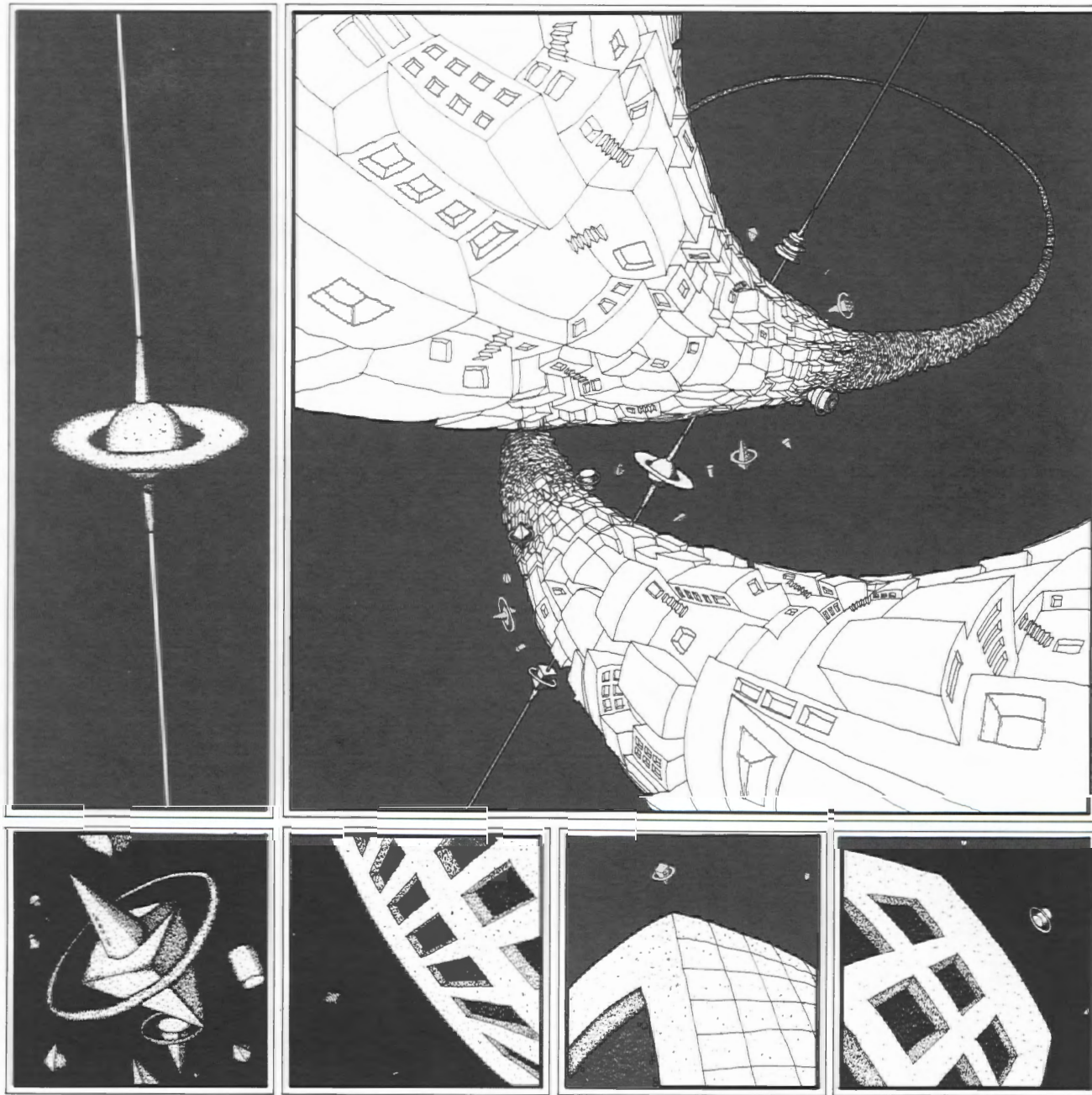
A Monument to Constance
Seeking stability and the transition through time, two rings of satellites are created to serve as a celestial compass. Analogous to a clock, radiating beams of light illuminate the city creating a passage through time. Orientation and substance begin to evolve.

INFINITIA
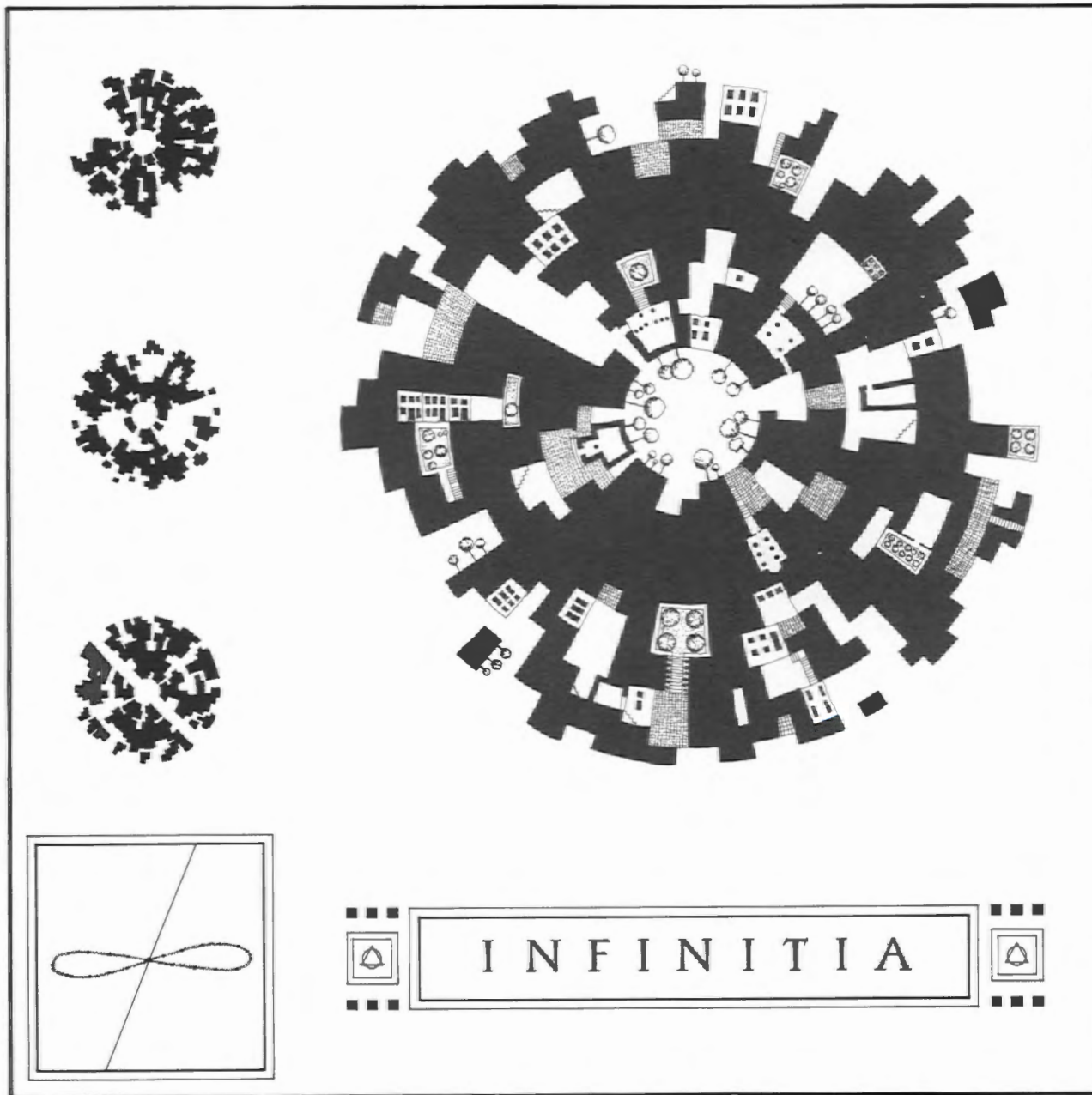
A Medieval Character in An Awakening City
Inspired by the fabrication of astrology and chronometry, likewise a concept of hierarchy is structured. Around a nucleus and twenty shafts for light are additive amassments of buildings and space. Like snowflakes, each "slice" of the city is unique, yet remains similar.
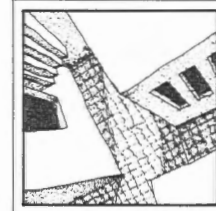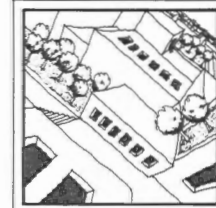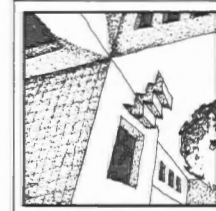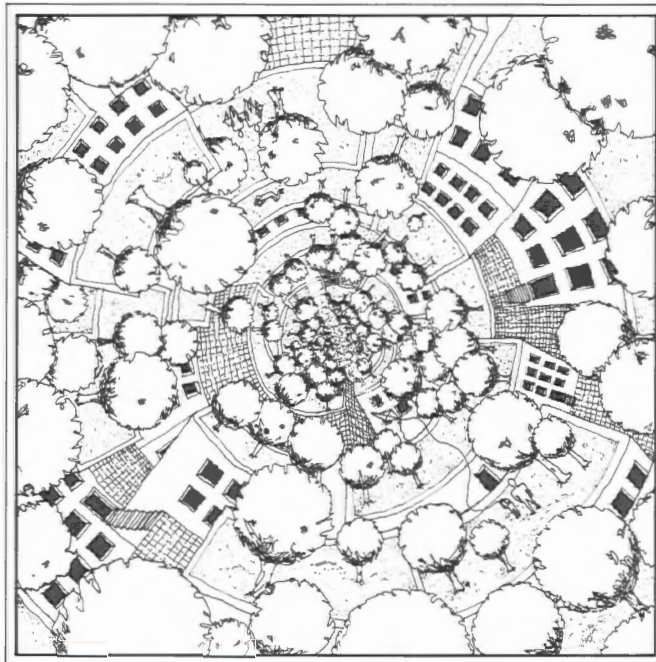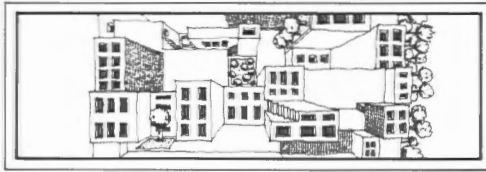
INFINITIA

Faces of Humanity in A City of Intent
A central continuous park expresses individual significance while kindred buildings reflect a city of collective aspirations. Architectural elements, providing significance and delight, beckon numerous activities of life.
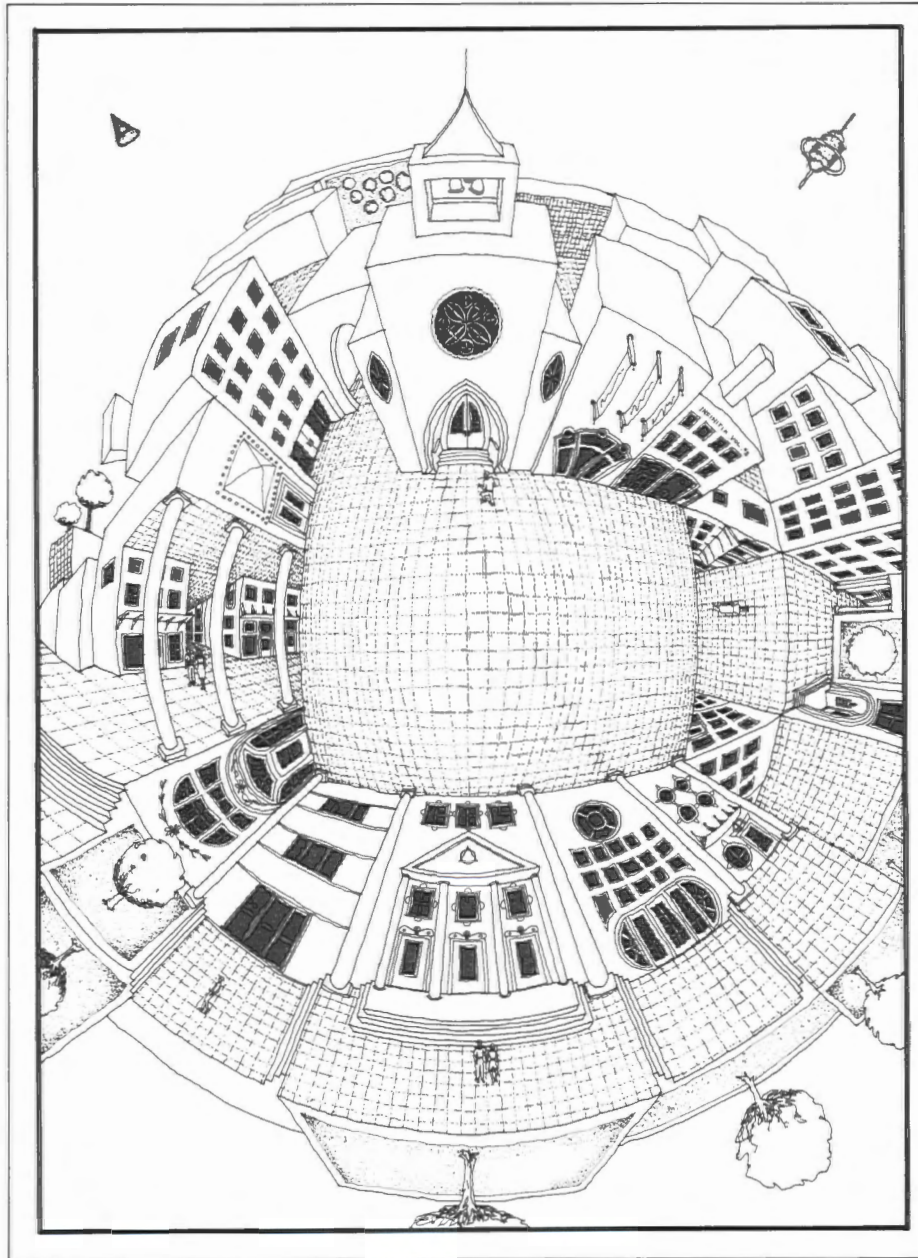
The Civic Life
Buildings and space honor the institutional and communal objectives providing beauty and compatibility in the public realm. A sense of reason and purpose pervade the city so that its constitution may be served.
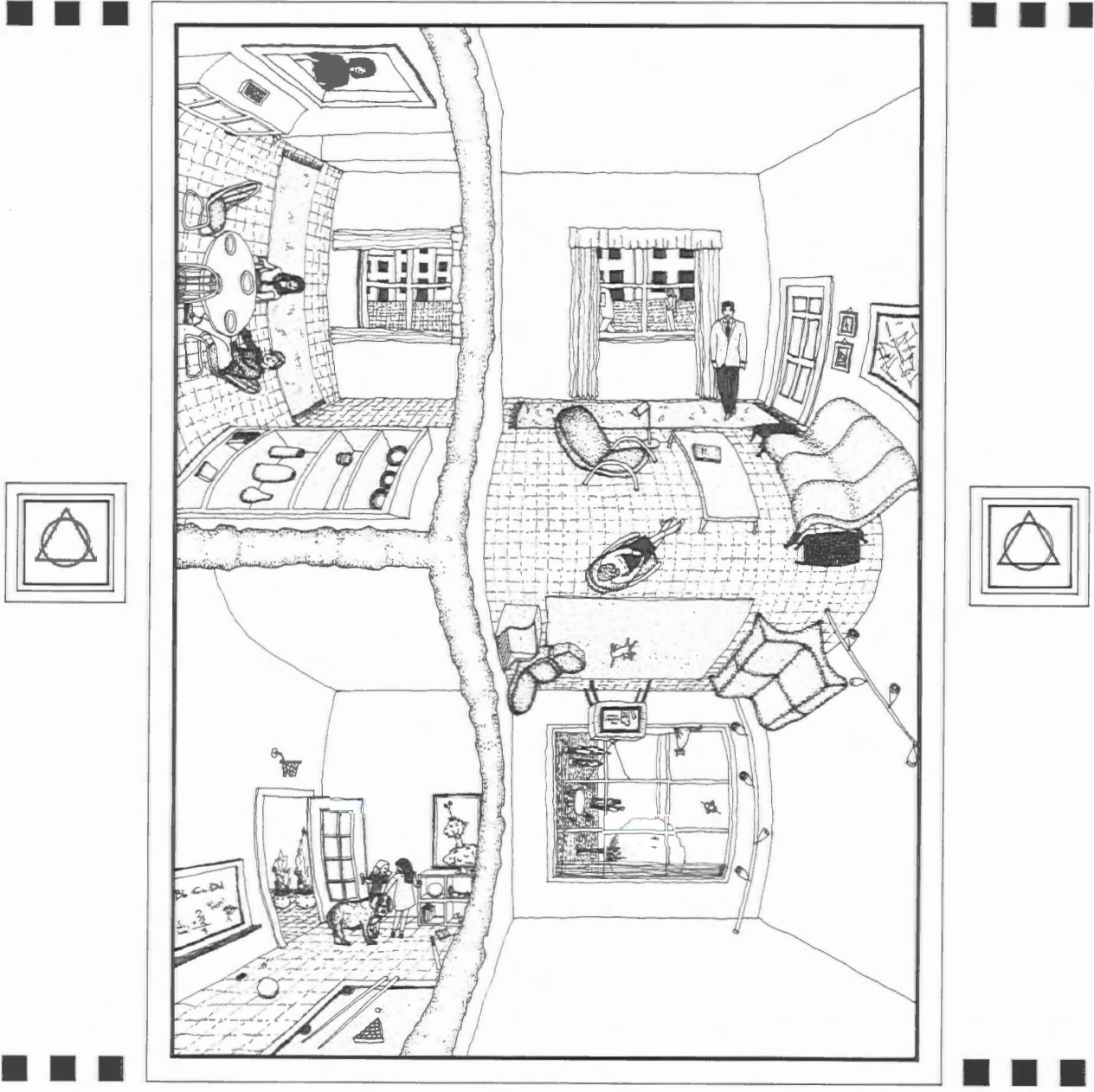
The Good Life
A sense of identity and place are celebrated in the private realm reflecting love and domestic tranquility.
Satisfaction and exuberance intoxicate the air inspiring laughter, giggles, and smiles.

A Transformational Design Solution to the Housing Crisis and Homelessness

By Marc M. Cohen

Marc Cohen is a Doctoral student in Architecture at the College of Architecture and Urban Planning. This article is the 1990 Saarinen–Swanson essay competition winner.

The problem of homelessness is the greatest challenge facing the American architectural and urban planning professions. Millions of Americans now live in the streets, subway stations, temporary shelters and automobiles. The situation in many cities worsens as the low–rent housing stock erodes and more people live on the streets. Sympathy for the homeless is wearing thin as their numbers increase every year and they become ever more present,[1] an attitude Bertold Brecht expressed as, "The rich can bear to create poverty, they just can't bear to look at it."[2] This housing crisis has been building, slowly and inexorably over several decades, despite the efforts of the design professions and government agencies to avert it. Have these efforts been merely misguided or wholly irrelevant to solving the problem of homelessness?

The design professions fail to provide effective solutions to the housing crisis because they traditionally view homelessness and poverty[3] as a narrowly defined problem of professional and governmental roles. They say that it is not a design problem: homelessness does not exist because they don't know how to design good housing, rather the problem exists because "society" will not allocate resources to support the construction of sufficient new housing or at least to ensure that it is profitable for developers, builders and bankers. Within the conventional view, the role of the socially conscious architect may be to "design a better cardboard box" for a homeless person or perhaps to convert an abandoned building to a group shelter. Such activism is better than no involvement at all, but clearly it will not solve the larger problem.

Architects focused on designing the box, in concrete or cardboard. Architects and planners must broaden their definition of design to encompass all aspects of resource allocation to produce new, affordable housing.

The answer is the creation of "critical mass" developments built large enough to establish themselves as viable neighborhoods. Housing needs to be profitable for builders and affordable for buyers and renters. The key funding is government compensation "in kind:" land, infrastructure and amenities. Do for the cities what government has been doing for the suburbs. The government should sell land at a nominal price to qualified developers. A cooperative effort is needed to build a critical mass of a viable neighborhood. This effort should trigger other subsidies and compensation in kind such as roads, schools, parks and subsurface utilities. There needs to be a guaranteed level of support for home buyers, a source of capital which becomes available because of incentives for banks, and a reason for them to invest.

Architects and planners must appreciate that the very government agencies charged with solving the problems of poverty and inadequate housing actually perpetuate them through institutionalization of certain bureaucratic, financial and infrastructural practices. We need to completely revise the system of housing production. The design professions must become active advocates of a new strategy that transcends the limitations and failures of old housing reform programs. This transformational design solution goes to the root of the system of American enterprise to build new and affordable housing in accessible locations for the "underhoused" as well as the homeless.

The key to this solution is to understand the history that led to the current crisis, and the forces that built expansive, affluent suburbs at the expense of the urban neighborhoods. Only through this historical understanding can architects and planners hope to redirect the policies that led to the housing crisis.

Origins of the Housing Crisis

The Great Depression & The New Deal

The United States has confronted problems of homelessness before, notably during the Great Depression of the 1930s, when President Roosevelt declared the situation as "a third of a nation ill-housed, ill-clothed, ill-fed." The New Deal solution to the problem of poverty and lack of housing during the 1930s was broad and complex, and key parts of the housing programs of today survive from that period. The centerpiece of Roosevelt's housing program was the FHA program of home loan interest insurance, in which the government assured the banks making home construction loans that it would cover any losses they incurred from defaults. The primary objective of the FHA was actually to put the savings and loan industry back on its feet after a wave of catastrophic bank failures (the fiduciary concomitants of the FHA were the FDIC and the FSLIC). In this context, federal housing policy evolved; a subsidy of the banks through the middle class, to "prime the pump" of economic recovery.[4] However, to protect itself when making this enormous guarantee, the FHA insisted that every property it insured should meet their Minimum Property Standards (MPS), so that either the bank or the government would be able to resell it on the real estate market without further loss. While the FHA programs were effective within their limited scope, today the legacy of MPS is a major obstacle to the financing, design and construction of affordable housing.

During this period, the federal government took an active role for the first time in the financing and contracting for housing. The FHA built a few sensitively designed projects of moderate scale, many of which were successful and which continue to be successful today. Perhaps the most famous of these projects is the Dunbar apartments in Harlem, completed in 1936, featuring a low-rise courtyard scheme in which all the entries to the houses open onto the common public space. This project is a good example of appropriate neighborhood scale and high quality construction, but the attitude toward existing slums was simply to get rid of them by tearing them down.[5] When city housing authorities became heavily involved in building new housing in the 1950s, they abandoned the model of manageable, human scale exemplified by the Dunbar apartments in favor of a more mechanistic and even punitive approach to housing design, planning and scale.

Urban Renewal and the War on Poverty

After the Second World War, Americans became enamored of massive and messianic projects that would solve complex problems with simple but gigantic solutions. The architectural concomitant of these schemes was best exemplified by Le Corbusier's Ville Radieuse, which became a model for many large scale housing projects of the period, in which a geometric project was overlaid on the urban fabric, obliterating any sense of context or connection to the rest of the city.[6]

This attitude in architecture and in city planning contributed to many of the massive "urban renewal" programs of the 1950s and 1960s, when city, state and federal agencies advocated and supported the demolition of large areas of "blighted" neighborhoods to make way for new development. In some cases, the redevelopment agencies built new housing projects, some of which were livable but many were not. Many instances of "urban removal," instead of providing new housing, facilitated the construction of new highway systems, a favorite technique of development czars such as Robert Moses for removing unwanted neighborhoods first perfected by Baron Haussman in Paris, a century earlier. Very often, it was difficult to distinguish the urban redevelopment aspects of the "War on Poverty" from a war on the poor. When the *East Village Other*, an alternative newspaper, published a cartoon strip in the late 1960s entitled "The Day They Napalmed Harlem," it did not seem very far-fetched that the urban redevelopment programs were the domestic equivalent of the "pacification" program in the Vietnam War, with equal lack of success.

During the 1950s and 60s the federal government's Urban Renewal Administration made grants available to local renewal agencies to clear slums

areas,[7] often at a profit to the city treasury; a phenomenon sometimes described as "Cities Destroyed for Cash" or "The Federal Bulldozer."[8] The cities that received these "urban renewal grants" needed to provide the federal government with only the sketchiest master plans for how they hoped to "redevelop" the cleared areas. The simplistic assumption was that if the land were cleared of the old housing stock and put back on the real estate market at bargain prices, developers would jump at the opportunity to reinvest in the city core. Unfortunately, after the completion of "urban removal," many redevelopment sites remain vacant because they have not attracted developers, including for example, much of the land around the Renaissance Center in Detroit. Where new developments were completed, it was not always new housing; often there were commercial, office or even industrial developments (Hunts Point Market in the Bronx, New York). When private developers did build housing, often it was much more expensive than what the original residents of the neighborhoods could afford.

The flight of capital from the inner city neighborhoods began to take the form of landlord abandonment and arson–for–hire. As the quality of urban life deteriorated, the rate of abandonment accelerated and entire neighborhoods such as the South Bronx became uninhabitable in only a few years. Eventually city governments seized many properties that were abandoned by absentee landlords and even by owner–occupants. Today, many large cities own thousands of abandoned properties. The city of Detroit owns 50,000 to 60,000 residential parcels, comprising approximately twenty percent of the city's taxable land area that is not paying property taxes. But these properties continue to cost the city money —it has a crash campaign to demolish approximately 6,000 vacant buildings a year, before they can become more serious problems as crack houses or arson sites.[9] While these abandoned properties are a liability to their reluctant municipal owners, they represent a potentially valuable resource in rebuilding the housing stock if they can be used in a complete, community oriented housing program.

The Suburbs Versus Urban Housing

At this same time as the massive urban removals, American cities experienced the largest growth of suburban developments. The FHA developed large scale home loan programs which heavily favored the purchase of new homes rather than existing ones in order to stimulate the construction industry and rapidly expand the family housing supply. Building a new home in the suburbs was more attractive in many cases than in the older cities. Land values were generally lower than in the cities. New home buyers perceived the municipal services as better in the new suburbs and the quality of the environment better for raising children. This combination of conditions led to a large proportion of the middle class migrating from some cities to the new tract housing developments to pursue the suburban ideal, combining the amenities of urban life with the closeness to nature possible in the countryside. The migration to the suburbs shifted the tax base away from the older neighborhoods and the allocation of public funds for roads, schools and municipal services followed. Residents of the inner city neighborhoods lost political clout in the state legislatures and in Congress as election commissions redrew the district lines to accommodate the new demographic realities. Older American cities ceased to grow.[10] Although black Americans were just beginning to win their hard fought battle for civil rights during the height of suburbanization in the 1960s, and to vote in greater numbers, discrimination in the expenditure of federal and state funds became more evident because of their concentration in the inner cities.

Many of the minorities in the cities had been attracted there in the great migrations from the 1920s through the 1950s to escape rural unemployment by the availability of new jobs. However, by the 1960s, an ever greater proportion of new job opportunities were developing in suburban business and industrial parks outside the traditional city core, and urban unemployment and discrimination began to grow as a critical problem, which exploded in the public eye in the urban riots of the 1960s.

This flight from the city masked the progressive loss of housing in poorer neighborhoods and the lack of capital and infrastructural reinvestment in inner city areas. Poor people could move into housing vacated by others. When necessary, families could double or triple up in one apartment or house, so long as

they could obtain utility services and the landlord did not abandon the building completely, they could survive. Despite the development of black and Hispanic middle classes and professionals, there remain a substantial number of members of these groups trapped in poverty who are especially at risk to lose their homes. These people become homeless when they lose a job, live in a building that was condemned or burned by arson for hire, or may be evicted by the landlord for non–payment of rent.[11] They find nowhere to go but the street.

The Failure of Public Housing and Government Intervention

Much of the public housing built during the 1950s and 60s has reached the end of its useful life. This episode of the failure of public mass–housing, as exemplified by Pruitt–Igoe in St. Louis, demolished in 1971, only 17 years after completion, is one of the most misunderstood issues in the housing crisis. Compared to the conditions that many homeless people now endure, Pruitt–Igoe, or the East Falls Highrises in Philadelphia or the Western Addition Housing Project in San Francisco would seem luxurious. Many environmental and behavioral researchers jumped onto the theme that the design of Pruitt–Igoe did not consider the social and cultural needs of the prospective tenants and was not "defensible space."[12] As a popular case study in the supposed failure of the Modern Movement, Pruitt-Igoe was conducive to alienation and crime.[13] While these criticisms have some validity, they overlook a more fundamental issue.

It is unlikely that these massive public projects were significantly more alienating or crime–breeding than the older tenement and row house developments of the earlier phases of the industrial revolution. The "Pruitt–Igoes'" sanitary, health (light and air), safety and spatial amenity conditions are generally far superior to the dumbbell tenements which were constructed on a similar scale in many cities beginning 100 to 75 years earlier. The major difference is that these large-scale, high–rise projects are publicly owned.

Public ownership, usually in the form of municipal housing authorities presented an unforeseen threat to habitability: the tenants and building managers were largely dependent upon public appropriations to fund regular maintenance and all degrees of rehabilitation and improvement. This dependence applied to common utilities such as elevators, laundry rooms, and mailboxes as well as to all forms of infrastructure such as playgrounds, local schools, community centers, streets, street lighting and sidewalks. Because there were no landlords or small merchants as tenants in the same buildings, often there was virtually no relationship to the local political machines that turned the wheels in city hall. In many cities, "the projects" were just political black holes with no services going in and no pay–offs or protection coming out. The residents of these projects thus rarely could take advantage of the normal benefits of municipal corruption that contributed to making city life a little more bearable, if at a price. When there was competition within city or municipal housing

authority budgets for maintenance or capital improvements for rehabilitation funding, it usually went to the parties with the most political clout, not the tenants of existing large projects. This political weakness reinforced the normal incompetence, sloth and indolence of the public housing authorities who regularly gave sweetheart contracts to service and maintenance companies, receiving little or no value for their money but not caring because the tenants had virtually no political or economic clout to insist that their buildings be properly maintained. Consequently, many housing projects became virtually uninhabitable within fifteen years of occupancy because of massive failures of maintenance. Even the Trump Tower would become unlivable and the elevators unworkable if there was no decent maintenance for more than a decade.

This discussion illustrates how public housing policies at the federal and city levels contributed to the present housing crisis and the continuing erosion of the housing stock. The very agencies responsible to provide "social services" or to provide low to moderate income housing are, to a great extent, the very causes of the housing shortage. Not only do they lose billions of dollars on questionable loans and projects[14] but they traditionally ignore creative proposals and projects. Problems at the local level are exacerbated by a false inducement to competition among local agencies in applying for funds and in spending them, rather than pooling resources to address common problems. Stated simply, the existing federal, state and local bureaucratic structures are as much a

part of the housing problem as the actual lack of affordable housing.

The supply of low-cost, affordable housing is dwindling. The present phase of the housing crisis arises from the predicament that many people at the lower margin of the housing scale have been forced out of their dwellings and finally, after decades of the housing crisis, there is no place for them to go except the streets. It is time to sweep aside the entire wreckage of the housing, urban development and social service bureaucracies that contribute to the housing crisis. It is time to formulate a new approach to the housing problem which avoids the pitfalls and failures of the past and works creatively and pragmatically with the possibilities of the future.

A Transformational Design Solution

The construction industry is the largest industry in the United States; the government is the largest single employer. And yet, these cultural, political and economic institutions fail to provide adequate housing, the most commonly needed commodity after food and clothing. In this condition of failure, the United States needs to provide twenty to thirty million new affordable dwelling units over the next decade by marshalling all the unfocused resources. The traditional housing subsidy programs tried to make housing safe and profitable enough for banks and contractors, but they no longer work at the lower ranges of the housing cost scale; consequently many of the HUD subsidy programs have been cut back or are being phased out

altogether. Housing should be a right, not a privilege, but the US economy stands on a perceived foundation of private enterprise. Thus, the first need is a new basis for ensuring private profit in the construction of new housing.

Public Expenditure for Private Profit

The basis of most of the great fortunes in the United States has not been pure private enterprise, but public expenditure for private profit. Usually, the public expenditure took the form of the right to exploit natural resources that belonged to all the people. Beginning with the Hudson's Bay Company before America's independence from England, this tradition continued through the early canal companies, the railroad companies (that made their great fortunes from selling the 10 mile wide checkerboard strip of land along their right of way) and the mining, oil, timber and water companies that obtain "rights" to extract resources from public lands for very nominal licensing fees. The key to this type of wealth-building is that it does not occur in the form of direct monetary subsidies which are easy to strike out of a budget. Rather, these subsidies take a non-monetary form of "compensation in kind" that is equally tangible, and often not taxable; and may become the basis of a tax shelter.

The United States now also faces a crisis of natural and agricultural resources. Prime agricultural land and ecologically sensitive wetlands are being lost at an alarming rate because of sprawling suburban and rural development. These essential lands

support both the human food chain and the planetary ecosystem. The US could forestall or prevent a great deal of this damaging development by making the cities liveable again at higher densities. Cities are more efficient systems for resource use than suburbs.

Ethics of Resource Allocation and Exploitation

It is time to focus the national ethos of public expenditure for private profit upon making the cities livable again. For a housing construction solution to succeed, developer teams of architects, planners and builders will need a comparable "compensation in kind" to make investment in poor communities worthwhile. The "natural resources" available in a city for compensation in kind consist of land, infrastructure and amenities. It is important that in each locale, each level of government and each agency have a unique function for direct accountability and to avoid duplication of effort, false competition and turf conflicts. The goal is to expand the housing supply rapidly in the city, with coordinated public and private investment focused on poor neighborhoods. The means is to mobilize resources at all levels of government to build new neighborhoods and communities with a critical mass of committed residents.

City Government

Cities that hold substantial blocks of abandoned real estate will offer single room occupancy buildings (SROs) to large

family units of four or five bedrooms. The developer shall post complete performance, labor and materials bonds to ensure completion of the project. The city will negotiate the maximum allowable initial rental or sales price with the developer. The city shall give the developer wide latitude in design except to insist on high quality materials and construction, and conformance with the Uniform Building Code and Uniform Housing Code or equivalent code standards, as enforced by generous inspection. The city shall alter its housing code in one particular: changing the definition of beneficial occupancy to accommodate sweat equity programs. The new owner can move into a dwelling with a basic bathroom and kitchen facility, roof, exterior walls, thermal and moisture protection and heating system completed, and carry out all other work on interior walls, wiring and finishes. The developer shall seek conventional unsubsidized bank financing or alternative & innovative financing, but nothing that requires conformance to HUD Minimum Property Standards if such conformance makes the units too expensive (the building & housing The city will also zone a small percentage of the neighborhood land for retail stores, most likely as a commercial condominium, in which the store owners will own their own property. Each neighborhood core should have land allocated for a private community center, preschool, playground and park.

State Government

State agencies should adopt a hands-off policy toward the city's choice of parcels and neighborhood sites. Instead, the state will concentrate on encouraging and supporting non-profit community organizations (chartered by the state), especially non-profit housing corporations who can act as developers in their own neighborhoods.[15] The city will have no role in approving funding of community corporations because of the probable friction between these community advocacy groups and the municipal government when the activists "fight city hall." The state will provide seed money for community organization staffing and organizational resources. No public housing authority shall be involved in developing community housing except in partnership with a non-profit community corporation who shall take over management upon completion as a cooperative or as a turn-key condominum. The incentive to take a role as a prime actor within one's own community will help to set the stage for active and effective community organizations to play a meaningful role. The state will also encourage community corporations to develop community centers, preschools parks and playgrounds that remain under private, non-profit control through grants and operating subsidies. These community centers may also serve as Head Start Centers, to take advantage of the only part of the federal education budget to grow significantly in FY 1991.

Federal Government

The key contribution of the federal government is to direct the National Highway Trust Fund and similar infrastructure-oriented agencies, including the Urban Development Block Grants to apply funding to the communities as part of the transformational design solution. This funding would not depend on the lengthy and convoluted "competitive process" but would be triggered automatically by the city awarding contracts on a threshold number of new homes (approximately 500). Federal housing agencies shall have no role in local housing decisions. The federal funds will support rebuilding the public utilities, street and supporting infrastructures so that there will not be a jump in property taxes, assessments or "supplementary property taxes" immediately after construction that can stun the new home owner. The city department of public works shall administer federal funds, contracting out the work on a neighborhood basis. These funds may be used to extend utility conduits and piping from the new work in the street to stub-ups in the lots to be developed so as to avoid costly and messy duplication of excavation. Ideally, the application of federal infrastructure funds will contribute to a non-assessable rise in property values, helping to stabilize the neighborhood. Justice Department investigators shall vigorously pursue cases of discrimination in housing loans and red-lineing by state chartered banks and savings and loan associations.

Conclusion

Fyodor Dostoyevsky observed that the degree of civilization of any society may be determined by the conditions in its prisons. Today, our

civilization may depend upon the conditions in its housing. The American "system of justice" spends $30,000 to $50,000 per year to maintain each convict in state or federal prison, but less than one percent of those amounts goes to house millions of law-abiding citizens who are homeless. Architects and planners have the ability to lead in transforming the conditions of housing and homelessness in our cities through engagement in a participatory process for just and fair resource allocation. This responsibility may prove to be the central ethical question in their careers. ∎

Notes on Text:
[1] Harry F. Rosenthal, "Homeless village OK, say D.C. residents, but not next to us," The Ann Arbor News, Feb,1990. p C1.

[2] Three-Penny Opera, Marc Blitzstein translation.

[3] Herbert J. Gans, People and Plans: Essays on Urban Problems and Solutions (New York: Basic Books, Inc.,1968) p. 205.

[4] Walter H. Blucher, "The Share of the Planner and the Lawyer," in Planning for the Future of American Cities, proceedings of the Joint Conference on City, Regional, State and National Planning, May 20, 21, and 22, 1935, Cincinnati, Ohio (American Society of Planning Officials, Chicago) 1935. p. 76.

[5] Charles Abrams, "Housing Policy — 1937 to 1967," In Shaping an Urban Future, edited by Bernard J. Frieden and William W. Nash, Jr. (Cambridge, MA: MIT Press, 1969) p 35.

[6] Colin Rowe & Fred Koetter, Collage City (Cambridge MA: MIT Press, 1981).

[7] Gans, op. cit. p. 261–262.

[8] Martin Anderson, The Federal Bulldozer (Cambridge MA: MIT Press, 1964).

[9] Jim Irwin, Associated Press, "Demolitions, Idle Land are opening up Detroit for an uncertain future," The Ann Arbor News, February 4, 1990, p. A11.

[10] Gans, op. cit., p. 65.

[11] Sara Rimer, "The Rent's Due, and for Many It's Homelessness Knocking — Thousands Evicted," New York Times, March 24, 1989. p. 1.

[12] Oscar Newman, Defensible Space: Crime Prevention Through Urban Design (New York: MacMillan Publishing Co., 1973).

[13] Peter Blake, Form Follows Fiasco: Why Modern Architecture Hasn't Worked (New York: Atlantic-Little, Brown Books, 1977).

[14] Jeff Gerth, "Loss of $4 Billion is Found in Audit of Mortgage Fund - Deeper Trouble at H.U.D.-Private Report Says Deficits Show Poor Management and Little Oversight," The New York Times, Sept.28,1989. p.1.

[15] Louis H. Masotti, John Mc Knight, Stanley Hallett and Frederic DuBow, "Institutions for Neighborhood Self-Development," Making Cities Work: The Dynamics of Urban Innovation, edited by David Morely, Stuart Proudfoot and Thomas Burns (Boulder, CO: Westview Press, 1980) p.129.

The 1990 Willeke Competition was held between March 2 and March 10. The brief for the competition, entitled *"A Pavilion at Carnegie-Mellon,"* was prepared by Boston architect Michael Dennis.

Winning the competition was Steven Gerrard. Honorable mentions were awarded to Tod Stevens, and Chih-Ying Chiu.

In 1987 Carnegie-Mellon University held an invited, limited competition for the design of several new facilities and a campus design plan. Michael Dennis, Jeffrey Clark & Associates won the competition on May 9, 1987. The first phase of the project, a dormitory/dining hall, a garage/stadium, and various athletic fields is now nearing completion and the second phase project, a university center, is being initiated.

A pavilion was included in the winning proposal to be located on a main axis to the existing Hunt Library. Mr. Hunt, who donated the money for the Library, now wishes to donate the pavilion and asked that a student competition be organized for its design. The pavilion's site was fixed; its size, character, and function were open to speculation.

The critique of the entries was conducted by Michael Dennis, Gunnar Birkerts, and Kent Kleinman. Prizes totalling $2500 were awarded.

Gerrard describes his winning design: *"My concept was to combine two pavilion types: an enclosed object with a defined exterior and interior, and an open shelter which is a continuum of its surrounding space. I based my design on the idea of slicing the enclosed object in half, pulling it apart and inserting an open shelter in between the halves. The result of this is a building whose meaning changes from different view-points. In addition I shifted the grid of the open shelter element in order to reinforce a diagonal connection between the main quadrangle and a new urban space created by Michael Dennis, Jeffrey Clark & Associates."*

Chiu's problem statement was titled *"Architecture Between Memory and Amnesia."* He writes that *"Design is reading. Designing is re-writing existent architecture. Design is transforming existent types, both architecture and urban, both building and place types. Design implies a dialectic between the new in relation to the memory of the old. But design is also a production of meaning. The transformation of the old into the Knew, and more; the mutation of the Known into the unknown. Design is also losing the memory as a possibility of invention, design is also amnesia. This project explores these theses through the design of the relationship between different contexts."*

Stevens notes that his concept was *"to create a structure that seeks to address the very notion (concept) of Pavilion. In its representation the fragments of what may be or was supposed to have been are regularly re-organized to emphasize a central axis (vista). Curved roof panels introduce a sense of lightness and shelter that respond to the basic essence of the structure (type)."*

1990 Willeke Competition: "A Pavilion at Carnegie—Mellon"
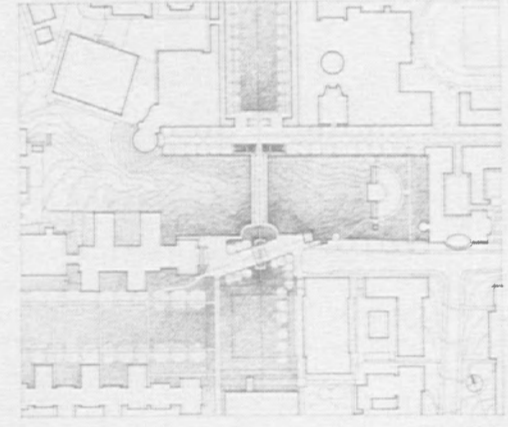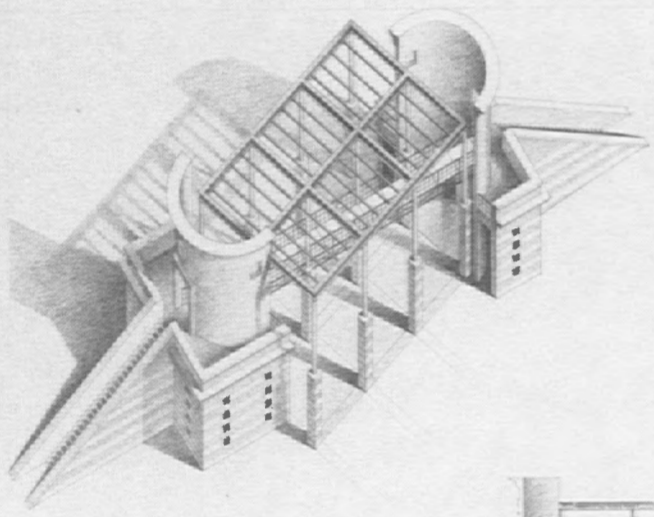
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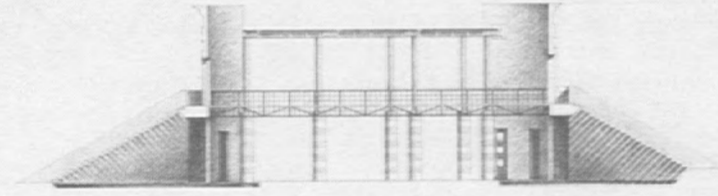
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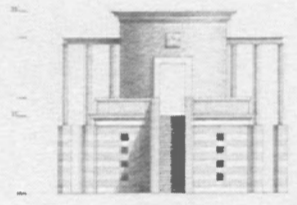
North Elevation

Upper Plan

Lower Plan

HUNT PAVILION

Steven Gerrard

Chih–Ying Chiu

Tod Stevens

1990 Wallenberg Design Competition:"A New Urban Gate Between The Potsdamer Platz and the Leipziger Platz: The Unification of East and West Berlin"

The winner of the 1990 Raoul Wallenberg Design Competition was Elizabeth Anne Govan. Runners up were Robert Mark Detman, Markus Andrew Kolb, Kevin Russell Draper, and Daniel Jon Ford.

The competition problem, "*A New Urban Gate Between the Potsdamer Platz and the Leipziger Platz: The Unification of East and West Berlin,*" was developed by Dean Almy, visiting assistant professor of architecture. Students in Year 4 were assigned the competition as part of their studio and were given ten days in which to complete it.

Govan's winning design problem statement reads: "*Inlaid are twenty-nine niches for the twenty-nine years of the Wall's existence. These are the footprints for the future of East and West Berlin. Please be aware of the scale of these niches; they are of human scale, not monumental. The slots behind the niches carry the sound of running water which cannot be seen. I am not memorializing the Wall; rather, this is a celebration of the ability of the individual to choose one's path.*"

The winner of the competition receives $2,500.00 to be used for travel. Govan plans to travel to Europe this spring.

Wallenberg, who received a degree in architecture from the U-M in 1935, is credited with saving more than 100,000 Jews from Nazi persecution in Budapest, Hungary during World War II. An annual reminder of Wallenberg's courage and humanitarianism, the Competition is made possible by gifts from the Bernard L. Maas Foundation, alumni and friends.
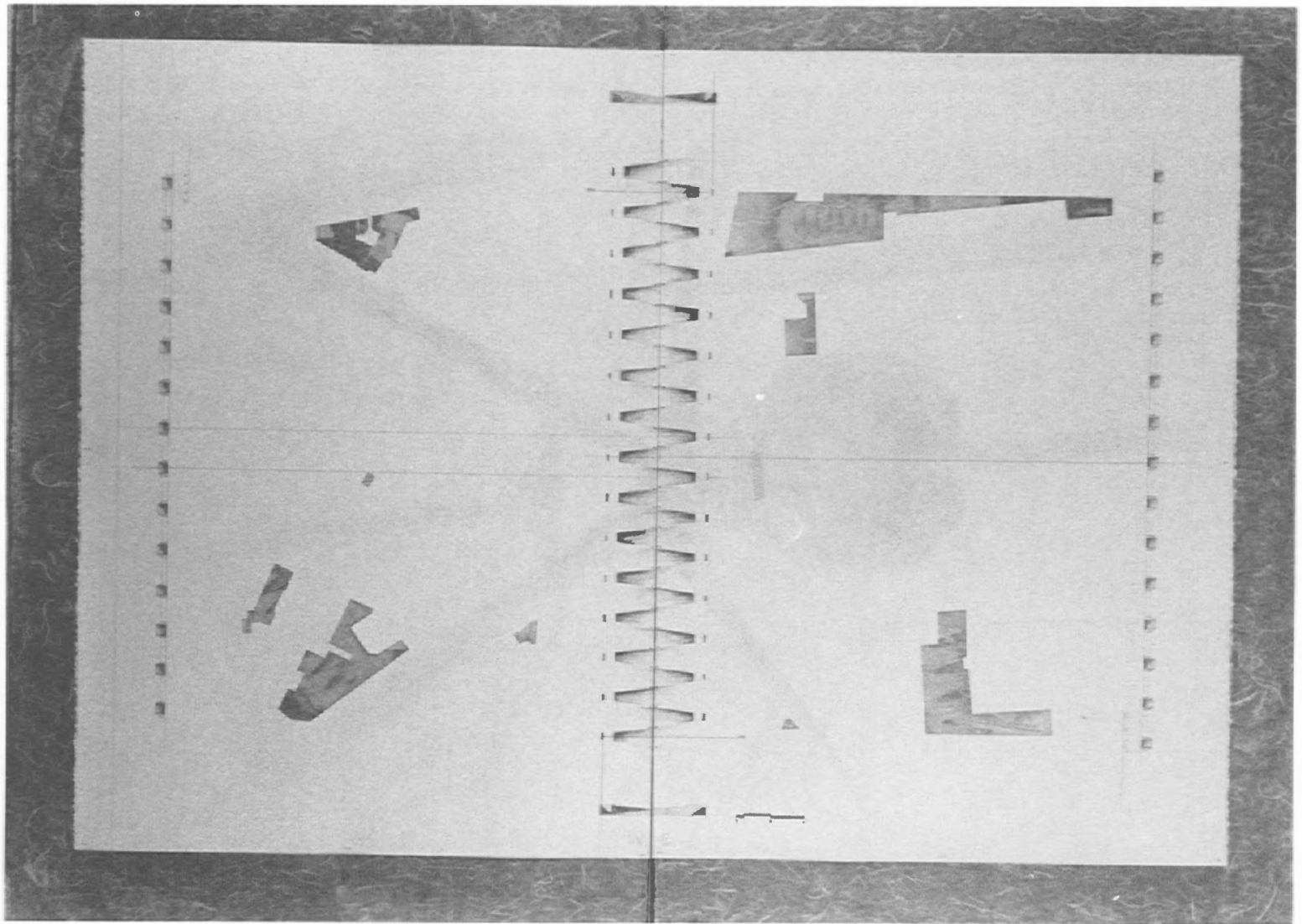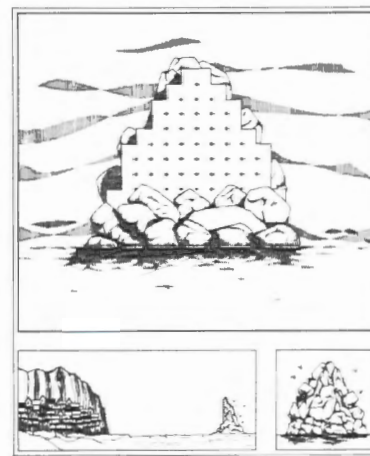
Elizabeth Govan

Architecture
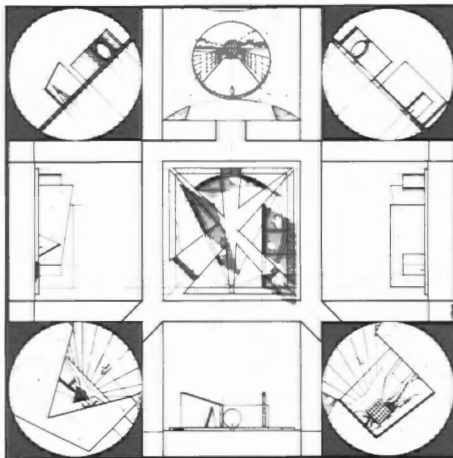**The Creation of an Invisible City and its Artifacts**

Monuments
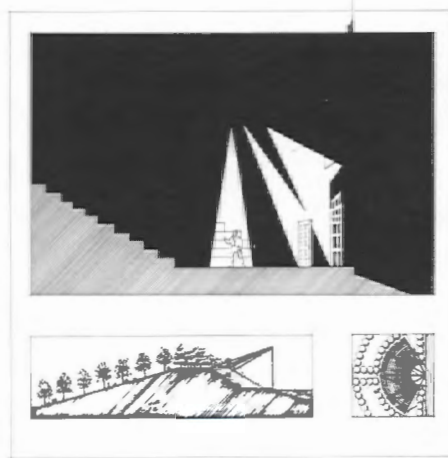to commemorate the
Idea of the City
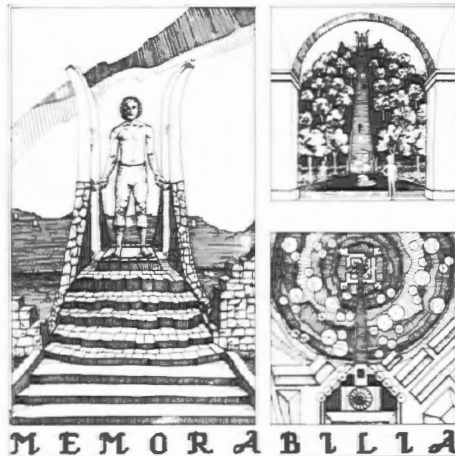
Cities and Memory

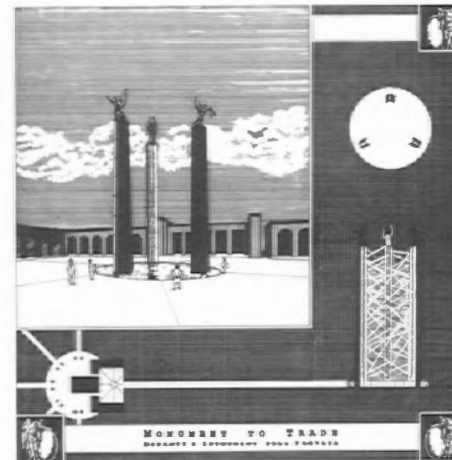*Anne E. Belleau–Mills*

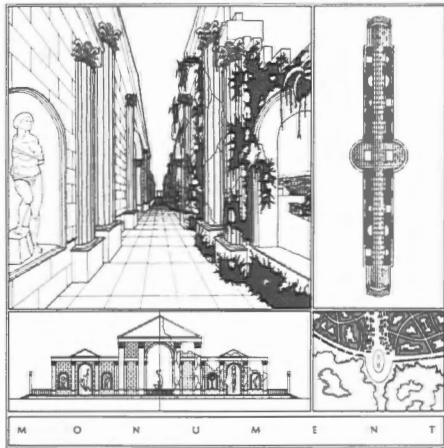**Cities and Desire**

Barbara J. Felix

Cities and Signs

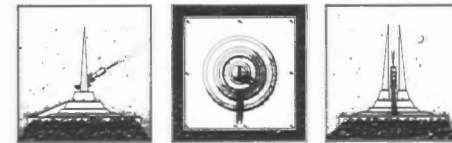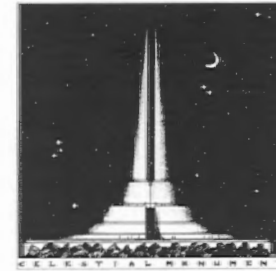*Juliet Jakobowski*

Thin Cities

Karen Zak

Trading Cities

Daniel Aquino Lichauco

Cities and Eyes

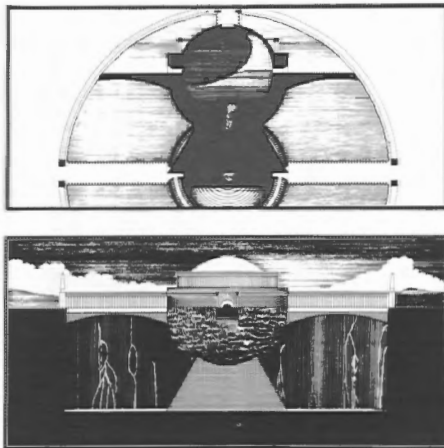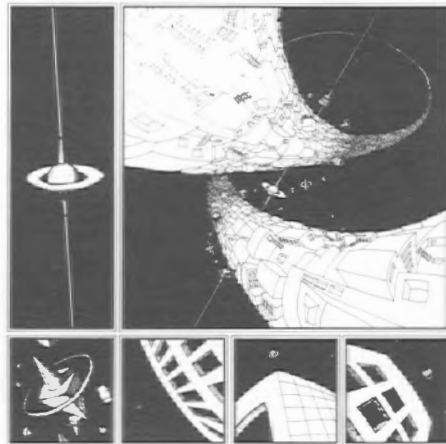*Scott S. Matties*
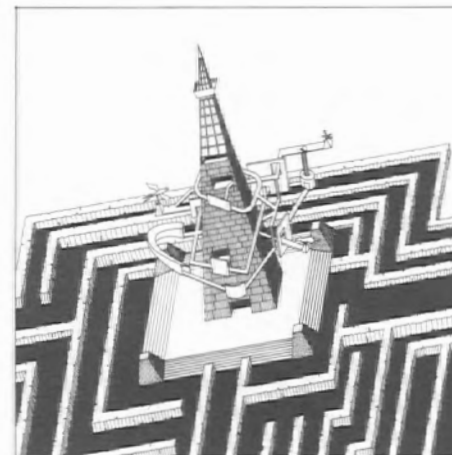

Cities and Names

Lois J. Palguta

Cities and the Sky

Danny S. Pease

Cities and the Dead

Gamaliel Perez Santaella

Continuous Cities

Suzanne Riley

Hidden Cities

Daniel Sanders