Order, Chaos, and the City

Space and Urban Form into the Twenty-first Century

by

Jadranka Paškvalin

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

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Department of Landscape Architecture
Faculty of Architecture
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SPACE AND URBAN FORM INTO THE TWENTY-FIRST CENTURY

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JADRANKA PASKVALIN

A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF LANDSCAPE ARCHITECTURE

To my parents, Vahida and Šimo Srzić

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Abstract

> When all possible scientific questions have been answered, the problems of life remain completely untouched.
>
> (Wittgenstein. 1981)

This thesis endeavours to:

discuss the issues of the "lived world" defined in social, environmental, political and economic terms, and how they affect cities;

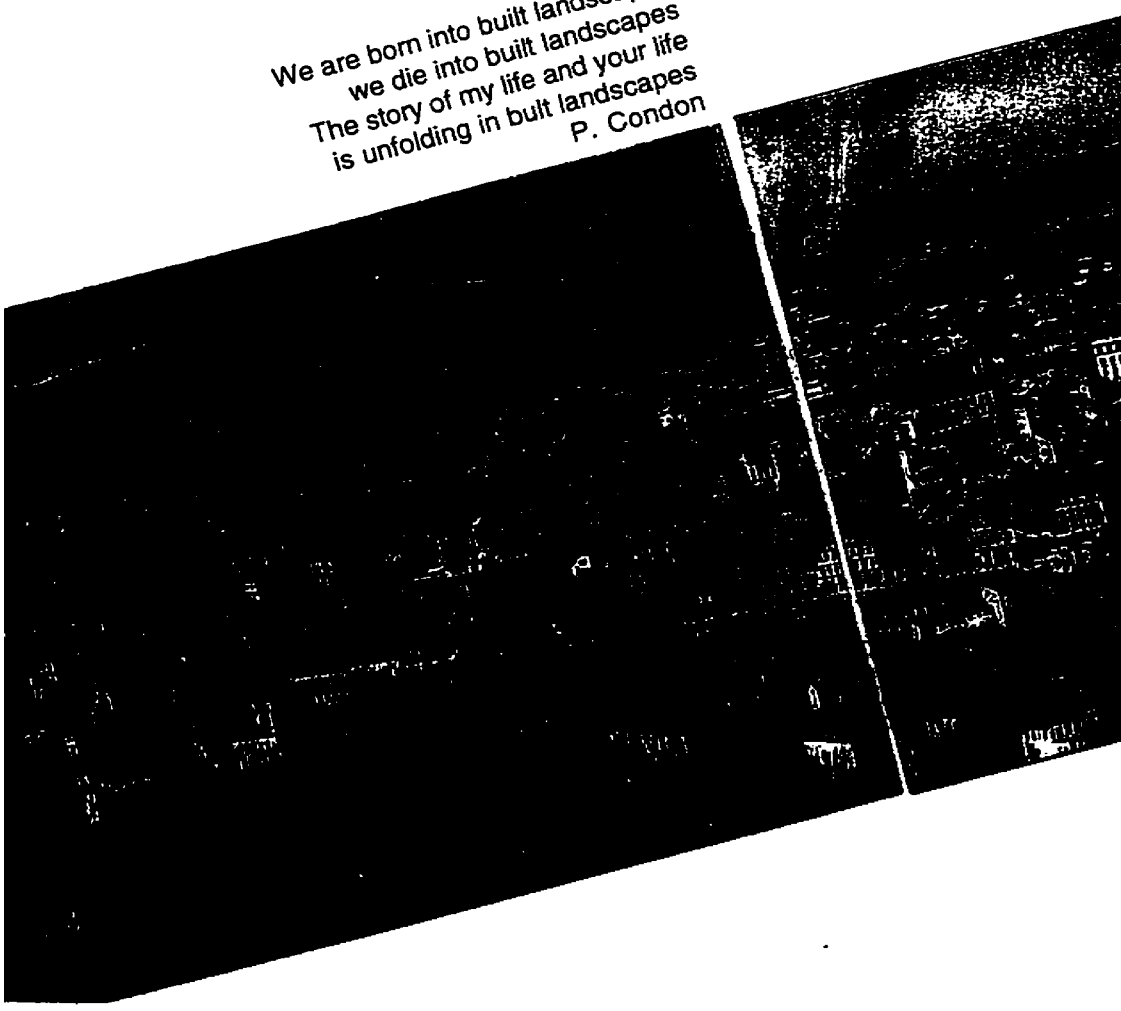
understand how current urban theories approach these issues; and

offer reformulations of what urban theory can do, and to promote a new way of thinking and looking at cities.

The thesis suggests that it is not accurate to simplify the problems of cities, and to advocate "better" planning and design. Too many current design strategies, and almost all the other procedures of environmental design and/or sciences that have attempted to solve the problems of our cities today, have been too reductionist. They have a prescriptive attitude, and are of limited value in dealing with the issues of the lived world. In the end of the twentieth century, they are not able to understand or accommodate new changes that accompany our world and cities.

The role of architect and urbanist is to use our environmental knowledge and our understanding of cities to reveal the absurdity of our current condition and to accelerate change. Therefore, my thesis is, that for proper understanding of what the city is today, we need to understand its functional order, which is possible only through holistic observation that includes a variety of disciplines. The thesis indicates that the present city is in accord with the dominant attitudes in present day society, and is a part of a complex self-governing order which is the order of life.

We are born into built landscapes
we die into built landscapes
The story of my life and your life
is unfolding in bult landscapes
P. Condon



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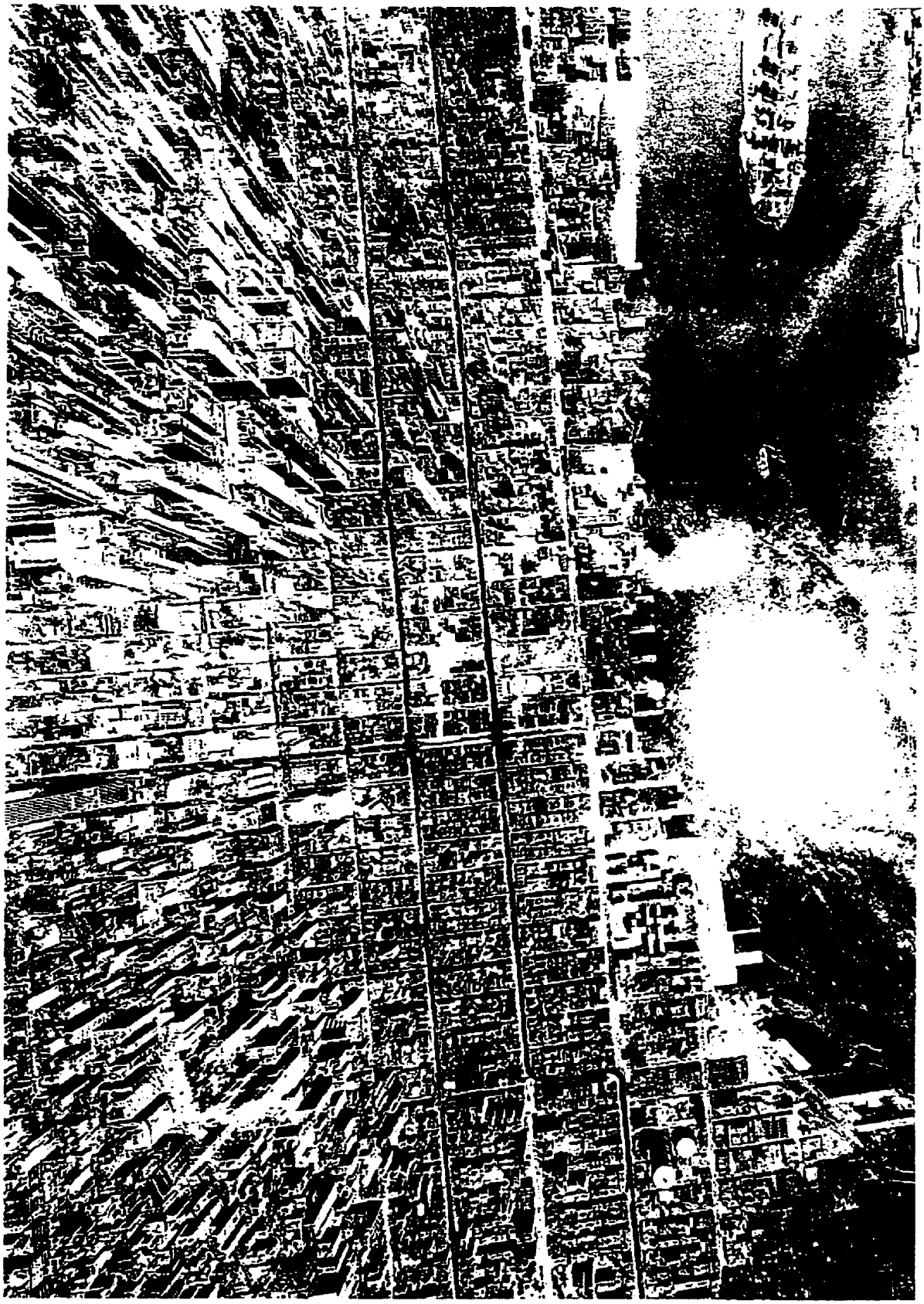

Illustration 2. Manhattan

Introduction

> A deep human need exists for associations with significant places. If we choose to ignore that need, and to allow the forces of placelessness to continue unchallenged, then the future can only hold an environment in which places simply do not matter.
> (Edward Relph, 1976:147)

In the conclusion of his book *Architecture, You and Me,* Giedion (1958) states that todays man, educated in pseudo-analytic thinking, with knowledge consisting of so-called "facts," is becoming more aware that his "merits" do not count if he is not able to "dwell poetically". The quality of life and the quality of the environment where he dwells is becoming a very important issue. The significance of place in modern life is associated with the fact that as actors we are always situated in place and time, and that the contexts of our actions contribute to our sense of identity. In this way the understanding of place and space where we are living today is of fundamental importance to our understanding of modern life.

Abstract space

The contemporary city, is profoundly influenced by economic, social, political and cultural processes. The importance of place has diminished, as global flows of people, ideas, mass media, extended power of the state, capital, and transnational corporations, have accelerated. The city has expanded into an illegible landscape, where the traditional distinctions between city, suburb, and countryside no longer exist. The enclosed space[1] of older cities with enclaves, city squares and nucleated villages that offer a distinctive experience of being inside, of being in a place, has been transformed into what Henry Lefebvre, one of the great French intellectual activists of the twentieth century, (1991) calls "abstract space," where place has become incon-

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[1] In his essay, *Building, Dwelling, Thinking* of 1954, Martin Heidegger (noted by Relph, 1976), provides us with a critical vantage point from which to behold this phenomena of placelessness. Against the Latin or rather the antique abstract concept of space as a more or less endless continuum ,he opposes the German word for space which means etymologically "enclosure" and then he says: "A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something begins its presenting."

sequential, generalized, undifferentiated, indefinite, and undefined. Frederic Jameson, American philosopher and literary critic, (1984) asserts that the city has been displaced by a "new hyper-space," a "new world space of multinational capital," a kind of global space that is "bereft of spatial coordinates". This is what Koolhaas (1995) calls "the generic city", which is left when important parts of urban life take place in cyberspace[2], and explains why we lose places and streets as public locations. "In this block," he says, "the major public spaces are defined as absences of building, voids carved out from the information solid. Floating in memory, they are like multiple embryos, each with their own technological placenta."

So where is the place within this new global space? According to Kolb (1992), "place is where we feel at home in a pattern of locations and buildings that sustain and shape us by opening possibilities, supporting our forms of life, embodying priorities, and perhaps by expressing social ideals or cosmological patterns". "Place, person, time and act form an indivisible unity," says Wagner (1972:49). A French philosopher, Gabriel Marcel (cited in Kolb, 1992) has summarized this simply: " An individual is not distinct from his place, he is that place". Therefore, to define new ways (or point out present ones) of making places for ourselves that express our identity, we need to know who we are and to understand the world that we are in.

Diferent visions

The readers of the city tend to be divided between those who find a chaotic mass of unconnected details, and those who see its patterning as pervasive. While one sees the whole design, the other doesn't see it at all. Edward Relph, urban theorist who greatly contributed to "the place theory" notices, that the fact that we can see the connections, means that we are participating in the mode of vision. "It makes all the difference in the world", Nietzsche (cited in Passmore, 1968:470) wrote, "whether a thinker stands in personal relation to his problems, in which he sees his destiny, his need and his higher happiness, or can only feel and grasp them impersonally, with the tentacles of cold, prying thought".

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[2] The term of "cyberspace" was coined by Wiliam Gibson in *Neuromancer* (New York: Avon Books, 1984:5)

Past better or past as danger

Negative connotations always accompany any discussion on present-day megacities, appealing to the widespread and probably ageless sentiment that the past must have been better than the present; it is simple and uncomplicated. Nevertheless we are living in "dirty realism" and our ageographic city is quite complicated. However, Relph does not agree that the new world is ugly, that it does not work well, that the individuality of persons and places have been overwhelmed by mass culture, and that the traditional values of aesthetics and ethics have given way to the facts of material comfort. He argues that our lives were not diminished because of our modern contexts (in which sense we would be incomplete people). On the contrary, it is the case that the new man-made environments, with all the ingenuity and technical achievement have made possible for all of us to enjoy standards of health and convenience that were until recently unattainable. Thus, whether a cyberspace is a place or placelessness depends on our point of view. However, the possibilities for reviving man's sense of place certainly do not lie in a selfconscious return to the traditional ways of place-making, which would require the regaining of a lost state of innocence. As Relph notices,: "we do not assess modern political economy in terms appropriate to medieval society". The other danger is the treating of place and placelessness too naively, as two distinct and opposed phenomena. Then they can become rigid preconceptions and categories that can all too easily be imposed on particular settings, in a way similar to what "New Urbanism"[3] proposes. It would make more sense to look at placelessness and place in dialectic terms where one becomes the other through constant change.

Acceptance of faith or not

Still, we cannot accept in silence the trivialisation and careless degradation of the significant places of our lives. "To live in an environment" Sinclair Gauldie (1969:182) says, "which has

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[3] Recently Peter Calthorlpe, Peter Katz, Andres Duany, Elizabeth Planer-Zyberk.and others, offer the New Urbanism's recipe for how to make the American city and its suburbs more livable.

to be endured or ignored rather than enjoyed, is to be diminished as a human being." If we choose to respond to that need and to transcend placelessness, then the potential exists for the development of an environment in which places are for man, reflecting and enhancing the variety of human experience, even in present cities.

Creativity and criticism

> The Chinese word for crisis "weiji" is formed by two characters, the first meaning danger and the second opportunity, suggesting that inherent in all crises is the potential for positive transformation.
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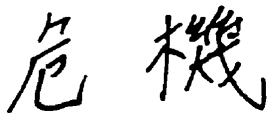
> 

An inheritance of the climate of the late 1960s and early 1970s is the basic assumption that the only respectable position is a critical position; this is evident within the majority of urban literature. However, urban analysts and architects, Relph, Koolhaas and Tschumi, argue that it is impossible to make a creative statement that is based purely on criticism, no matter how critical we are.

> There has to be a component of adhesion or reinforcement or complete identification. I find it ambiguous, if not hypocritical, that we all pretend to discuss something that we want to maintain a certain neat and moralistic distance from. In fact, some of our most interesting engagements are uncritical, emphatic, and very risky. . . . The deepest motivation of architecture is something that cannot be critical.
>
> (Koolhaas, cited in Davidson, 1996)

The deepest motivation of architecture could perhaps be "environmental humanism"[4] that Relph reveals. However, this engagement or adhesion is something that requires dealing with an incredible accumulation of economic, cultural, political, and social issues.

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[4] Relph (1981:20) states:

> Humanism is the conviction that men and women can best improve the curcumstances of their lives by thinking and acting for themselves, and especially by exercising their capacity for reason and 'environmental humanism' is a suggestion for a way of seeing and thinking that is responsive of the best qualities of landscapes. To learn this way of seeing we must allow ourselves to be appropriated by environments and situatuions. In other words we have to come to accept places, building, people and objects for what they are and as they are, not merely because of their resource potential or research significance.

In the 1990's, we have seen important new research on present cities in which the fragmentation and dislocation produced by the scaleless placing of highways, high-rise buildings, shopping centers, suburbs, is seen as a positive sign of the vitality of urban culture. Fragmentation produces openness and dynamism in the city. Architects like Rem Koolhaas and Bernard Tscumi, two remarkable figures with this attitude, turn to the what Koolhaas (1995:977) calls "average-contemporary-everyday ugliness of current Euroopean-American-Japanese architecture", generating, through that ugliness, "a potentially sublime contrast between the empty areas of the site-those we had protected from building-and the uncontrollable, almost cancerous chaotic growth of the city as a whole." As opposed to nostalgic attempts to restore an impossible continuity of streets and plazas, this study implies making an event out of urban shock, intensifying and accelerating urban experience through clash and disjunction.

This study

This study will attempt to understand what the city is today. All we can hope for is to begin to understand. So far, we know that the city is a product of an incredible accumulation of economic, cultural, political, and social processes, which requires an engagement for which we use the word "complexity". The physical growth of the city, as well as interaction of those processes could be defined as uncontrollable and chaotic. "Chaos" is the only word that really can embody the reality of todays cities which are complex, fluid, moving and unknowable. However, the word "chaos" also implies, as we will see in the next chapter of this study, the other definition which is "self organization." This study will try to circumscribe a view of cities in a particular way, the philosophical and epistemological orientation which is recognized in this case as chaos.

Approach

The old way of doing things has been proven as hollow and sometimes quite destructive. It would really require a second innocence, as postmodernists like Koolhaas, Eco, or Venturi note, to believe at the end of the 20th century, that the urban - the built - can be planned and mastered. However, we have not yet learned the rules for the new ways of doing things. It is important to note that the responsibility for economic and social well-being is general and transitional. It seems that answers are somewhere out there, but we are not able to see them because we do not see the whole thing; we always see just parts of the whole, and depending on this limited vision, we create our perception of the world. What we need is a more complex vision of the world and the only possible approach to the complexity with which we are dealing with is a holistic approach. The only science that deals with complexity is the science of chaos[5]. As we will see in the next chapter of this study, knowledge does not begin with a knowledge of the self or of things as such but with a knowledge of their interactions.

Part I explains the approach to this study. It principally discusses epistemological issues related to the problems of urbanity and our approach to solutions which in this case are within chaos theory. Part II describes the city. Part III discusses the "issues of the lived world" defined in social, environmental, political and economic terms, and how those issues affect cities and the social behavior of people in cities. It is essential to explore the functioning, innate order of the city, for without insight of that order, any speculation on how to endow the city is useless. Therefore this phase is an investigation into what the city really is. Insights from different disciplines: economics, ecology, philosophy, geography, anthropology, the social sciences and technology, directly or indirectly address issues of the lived world and of the city within that world.

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[5] Science of chaos is a relatively new science that cuts across separate scientific disciplines. Because it is a science of the global nature of systems, it has brought together thinkers from fields that had been widely separated, tying together unrelated kinds of wildness and irregularity, from the turbulence of weather to the complicated rhythms of the human heart, from the design of snowflakes to the whorls of windswept desert sands. Highly mathematical in its origin, chaos nonetheless is a science of the everyday world.

These disciplines overlap and interact unfolding the background knowledge for our study. The intent is to understand the intricate foundational order under the seeming disorder of cities. Furthermore, this knowledge is necessary for understanding what follows. Part IV, the last part of the study suggests reformulations of what urban theory can be, and discusses the problem of complexity (or chaos) in our cities.

Simplification

This study is about rethinking, restating, and reformulating urban theory. However, a new urban theory is not something we set out to create. It is not a set of precise answers to specific problems, but it could promote new approaches and possibilities. This study is not concerned with detailed examination and elaboration of only one aspect that can be an indicator or an element that promotes, or destroys our cities. Rather, all the elements are observed in an interaction to each other — specialist knowledge is subservient to generalist knowledge. The networks are so interwoven that they cover much of the same territory, though on different planes and in different modes.

Since we are concerned with complexity, it is not possible to simplify it to a very high degree. For the purposes of clarity, however, a certain degree of simplification is necessary. In this case it is useful. It is a pragmatic point where results may not be perfect, but are good enough to start.

The point is, as Jane Jacobs likes to emphasize, that we need desperately to learn and to apply as much knowledge that is true and useful about cities, as fast as possible.

Part 1
Approach

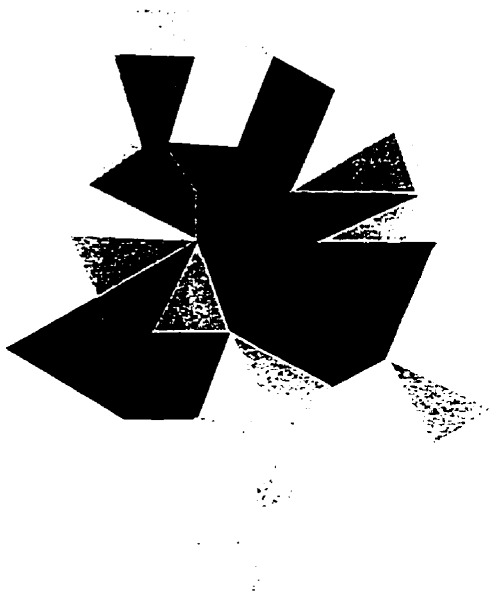

Illustration 3. Fractal city

Epistemological Issues

> Shall I teach you the meaning of knowledge? When you know a thing to recognize that you know it, and when you do not, to know that you do not know — that is knowledge.
> (Confucius, 1939)

An important issue is to define where and how to collect background information, that will guide the development of a theoretical position for this study. Furthermore, of similar importance is the question of how to use that knowledge and in which relationships.

The City as Transdisciplinary Field

A city is a dynamic system that often surprises; it is a space where activities take place, exchanges occur, and plans are materialized. Therefore, the city is intrinsically a "transdisciplinary" field, and certainly cannot be understood through a process of mechanistic-reductionist looking at individual elements. As Engwicht (1993:21) likes to point out, "it is impossible to understand the Paris street scene by taking one of the chairs into a laboratory and examining its molecular structure or ergonomic design." Cities, like any living, eco-systems can be only understood by examining the complex web of internal relationships in this case the relationships between the street, the chairs, the people on the street, and the people using the chairs. All elements in the city, whether they be chairs, streets, trees or rocks, can become part of a dynamic event, and, therefore, part of a dynamic relationship.

> Architecture and its concomitant theory never constitute an isolated field to be analyzed in detail; they are only of interest when one looks to see how they mesh with economics, politics, or institution . . . If they are separated, they become impossible to understand. Each can only be understood through the other . . . Nothing is fundamental. That is what is interesting in the analysis of societ . . . There are only reciprocal relations, and the perpetual gaps between intentions in relation to one another. . . What is interesting is always interconnection, not the primacy of this over that, which never has any meaning.
> (Rabinow, 1982:20)

During an architecture conference in 1995, architects and philosophers[1] were question-

[1] Fredric Jameson , Peter Eisenman, Arata Isozaki, Rem Koolhaas, Daniel Libeskind, Bernard Tschumi, Elizabeth Killer, Toyo Ito were among participants.

ing architecture's relationships with other disciplines at the end of the millennium. Fredric Jameson, while reconstructing an archeology (in Michel Foucault's[2] sense of the word) of disciplines, clarified architecture's status as a transdisciplinary form of knowledge. He stated that "architecture cannot be limited to a discipline - it stands beyond disciplines; it is multidisciplinary. Moreover, it creates an epistemological foundation of choice from which to study all disciplines. The concept of discipline confirms that architecture can be a philosophy of knowledge . . ."

Complexity in the Chaotic Elements of Life

All the complex, unpredictable, chaotic elements of life, are usually considered unacceptable as evidence. Evidence of chaotic behavior, like turbulence for physicists, and weather prediction for meteorologists, Third World poverty (colonization and its effects) for economists or anarchy in politics, has been an intractable problem in the world of cause-and-effect thinking, because it cannot be broken down into discrete pieces and dealt with "scientifically". However, they are usually the true indices of the world's reality. The scientists, who are ahead of most of us in their recognition of formative patterns, believe that the "order" of the living world is probably what they, previously considered "chaos". Consequently, the former definition that chaos is disorder, is only when defined from the restrictive mechanistic-reductionist standpoint.

From this perspective that chaos is the very order of life, we will start our analysis of the city. However, we are stepping into areas, that we really do not have empirical knowledge of. The best scientist of any time may only poorly understand the fundamental processes governing nature, society, and their relationships, partly because isolated knowledge from different disciplines sees only a part of the problem.

Reductionist and Holistic View

The past three centuries of science have been predominantly reductionist, attempting to

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[2] The work of French philosopher, Michel Foucault, left its mark on virtually every field of study since the 1970s. Foucault's influence on urban design theory has to do mainly with his ideas regarding the relationship between space, power, and knowledge.

break complex systems into simple parts, and those parts, in turn, into simpler parts[3]. The reductionist program has been spectacularly successful, and will continue to be so. But it has often left a vacuum. How do we use the information gleaned about the parts to build up a theory of the whole? The deep difficulty, as many scientists, economists, social and urban theorists like Schumacher, Kauffman or Jane Jacobs notice, lies in the fact that the complex, whole map exhibits properties that are not readily explained by understanding the parts. One of the basic assumptions of scientific thinking is that you can isolate and define the bits of your world view that you think are important, until you arrive at whatever appears to be fundamental; the rest you reject as mere details. The fact is that we do not need to know everything in every science involved here. With an increasing number of abridged disciplines, we deal here with extreme complexity. Knowledge that is important is generated not as a result of achievements in each separate field — urban theory, ecology, economy, anthropology, social sciences, technology, but in the space between them.

Schumacher (1989:99) points out that is not only specialization which is at fault, but the lack of depth with which the subjects are usually presented, and the absence of metaphysical awareness[4]. The sciences are being taught without any awareness of the presuppositions of

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[3] When the Royal Academy of Sciences in Paris underwent a radical reorganization in 1699, classes began in medicine, mechanics, chemistry, etc., resembling later disciplinary categories. Yet, these classes were still part of a unified whole and, although they incorporated institutional dimensions, their resemblance to disciplinary structures came from publishing the *Histoire and the Mémoires* of the Academy rather than from the establishment of formal divisions. Didero's *Encyclopédie* offered a new approach to knowledge that both maintained and subverted the old unitary view. The traditional unitary whole was maintained by the term encyclopedia, while the subtitle, *Dictionnaire raisonné des arts et des sciences* reflected to a fragmented and hypertextual approach to knowledge. This correlates easily with Diderot's vision of knowledge as a series of disconnected, limited spots of light separated by vast expanses of darkness - a vision that pointed to the necessary incompleteness of knowledge and its fundamentally fragmentary nature. (Davidson, 1995:93)

[4] A good example of this is from the first year of the nineteenth century about a difference of opinion between Newton's followers in England and Goethe in Germany over the nature of color. To Newtonian physics, Goethe's ideas were just pseudoscientific meandering since he refused to view color as a static quantity, to be measured in a spectrometer and pinned down like a butterfly to cardboard. He argued that color is a matter of perception. It is "the interchange of light and shadow that causes color. Color is a "a degree of darkness," Goethe argued, "allied to shadow." Above all, in a more modern language, color comes from boundary conditions and singularities. Where Newton was reductionist, Goethe was holistic. Newton broke light apart and found the most basic physical explanation for color. Goethe walked through flower gardens and studied paintings, looking for a grand, all-encompassing explanation. Newton made his theory of color fit a mathematical scheme for all of physics. Goethe, fortunately or unfortunately, abhorred mathematics.

science, of the meaning and significance of scientific laws, and of the place occupied by the natural sciences within the whole cosmos of human thought[5].

Postmodern World View

In this study, this holistic view will define a way of thinking about the city in relation to different disciplines. In Western culture there have been many great holistic thinkers, and eco-relational thinking[6]. Charles Birch (1990) refers to this manner of thinking as "the postmodern world view", which others call "the ecological world view". It was largely the way people viewed the world before Newton ushered in the scientific age. It is simply a common sense view. Waelti-Walters (1996) or Engwicht (1993) define it as the view that accepts uncertainty and chaos not only as part of the universe, but also as part of the thinking process. It waits expectantly for the new order that will arise, the nature of which will always be a surprise; it is not always "logical" in the traditional sense, but intuitive, and it connects the previously unconnected. It moves in circles and is interested in both the big picture and the smallest detail; the big picture is often reflected in the smallest detail. Therefore, chaos is the source of a thought process because chaos is the very order of life.

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[5] Schumacher (1973:99) argues that all subjects, no matter how specialized, are connected with a centre. They are like rays emanating from a sun. The center is constituted by your most basic convictions, by those ideas which really have the power to move us. In other words, the centre consists of metaphysics and ethics, of ideas that — whether we like it or not — transcend the world of facts. Because they transcend the world of facts, they cannot be proved or disproved by ordinary scientific method. Nor that does not mean that they are purely subjective or relative or mere arbitrary conventions. They must be true to reality, although they transcend the world of facts an apparent paradox to our positivistic thinkers.

[6] The prefix eco is an abbreviation of the word ecology that means the study of the relationships between organisms and their environment.

Chaos Theory

> In the beginning was chaos. Then the earth. The earth begets the sky and unites with him. But chaos means openness. They translate it as "emptiness" and wonder why they don't know anything anymore. The earth marries her son, the starry sky. But he eats his children, and only one escapes. Time. Time marries his sister, the earth. But the earth doesn't beget the sky at the level of the window anymore. A little lower than the beam. At the level of the running knot. Already at that point, something's wrong. Already at that point, they separate mother from daughter. After having separated space from time. And sky from earth. The more time passes, the more they separate us. I was earth and sky and time. They tore the sky from me. We were just one. They separated us and made us beget time. Time who eats his children.
>
> (Hyvrard: Mother Death; cited in Waelti-Walters, 1996).

The "holistic view" approach to our study demands an understanding of chaos theory and its underlying themes that possibly could be found in such complex systems as is the city.

What Is Chaos?

> Twentieth-century science will be remembered for just three things: relativity, quantum mechanics and chaos . . . Chaos is a history of scientific discovery. Where chaos begins, classical science stops.
>
> (Gleick, 1988)

Beginning

As nonlinear science, chaos arose in odd corners of different disciplines when the flow of ideas failed to follow the standard logic[1]. Many pieces of the puzzle had been seen long before — by Henri Poincaré in the late 19th century, in his work on planetary orbits, by Maxwell, even by Einstein — and then forgotten. Edward Lorenz is a meteorologist who in 1963, "discovered" chaos in his computer examination of a relatively simple mathematical model of weather. His book, *The Essence Of Chaos*, describes how the field of knowledge he partially invented has

[1] Many bodies in the solar system alone, as Kauffman (1995) points out, have already been determined to exhibit chaotic orbits, and evidence of chaotic behavior has also been found in the pulsation of variable stars. Evidence of chaos occurs in models and experiments describing convection and mixing in fluids, in wave motion, in oscillating chemical reactions, and in electrical currents in semiconductors. It is found in the dynamics of animal populations and of medical disorders such as heart arrhythmia and epileptic seizures. Attempts are also being made to apply chaotic dynamics in the social sciences, such as the study of business cycles and the modeling of arms races.

come to be a major component in our understanding of the world about us (see illustration 4). The obvious fact is that the living world is graced with a gift of order. The idea of hidden unity and common underlying form in nature, has an intrinsic appeal:

> Each bacterium orchestrates the synthesis and distribution of thousands of proteins and molecules. Each cell in your body coordinates the activities of about 100,000 genes and the enzymes and other proteins they produce. Each fertilized egg unfolds through a sequence of steps into a wellformed whole called, appropriately enough, an organism. The sole source of this order is what Jacques Monod called "chance caught on the wing .
> (Kauffman, 1995:71)

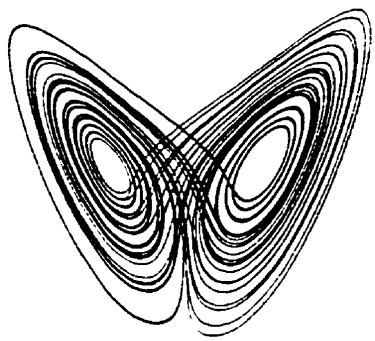

Illustration 4.
The butterfly. An abbreviated graphical representation of a special collection of states known as a "strange attractor" was subsequently found to resemble a butterfly, and soon became known as the butterfly. Perhaps the butterfly, with its seeming frailty and lack of power, is a natural choice for a symbol of the small that can produce the great.

In the book *Order Out of Chaos* written by the Nobel Prize-winning physical chemist Ilya Prigogine and his colleague Isabelle Stengers, is explained the manner in which many disorganized systems can spontaneously acquire organization. Several other terms, notably nonlinearity, complexity, and fractality, are often used more or less synonymously with chaos. There is still no conceptual framework that will allow us to understand an evolutionary process in which self-organization, selection, and historical accident find their natural places with one another. However, certain underlying themes are observed and proof as correct in different disciplines, and since we want to talk about complexity and chaos in the urban environment, we should understand what those underlying themes are about.

Behavior in Chaos

Chaos is brought about by overload of a simple system which is very sensitive to local conditions. Under stress such a system will speed up and bifurcate over and over again until it

abandons any notion of hierarchical structure and creates "chaotic" interconnections. This chaos is a state of unpredictability which generates a vast stream of information. However, when such irregularities are examined across scale, they are found to contain pattern in a different way (Gleick, Kauffman, Waelti-Walters). This pattern is self-similar. As Waelti-Walters (1996) notices, we recognize self-similarity all around us, in images such as the indefinitely deep reflection of a person standing between two mirrors, or in the cartoon notion of a fish eating a smaller fish, eating a smaller fish.

Solving Problems, Adaptation, Change

Both, Gleick and Kauffman explain that in a system, that behaves in a controllable manner, people solve complex design problems piecemeal, assembling good design by a succession of trial-and error searching, which is usually thought of as of what "hill climbing." The process of evolving organisms and artifacts is very similar. Organisms evolve by a process of adaptation toward "peaks" of high fitness on a fitness landscape. But when minor variations cause catastrophic variations in the behavior of the system, organism, or artifact, the fitness landscape is essentially random, because no local cues exist to detect directions of change that are uphill toward the distant peaks. It is the situation which can be as well used to explain the situation in which are our cities of today.

Self-organization

Since the power of selection is limited, it seems doubtful that selection alone can ensure friendly landscapes, and perhaps another source of order is required. And here, as Kauffman believes, may be an essential tie between self-organization and selection. "Self-organization may be the precondition of evolvability itself." Only those systems that are able to organize themselves spontaneously may be able to evolve further. Thus, evolution may be impossible without working with systems that already exhibit internal order.

> Whether we are talking about molecules cooperating to form cells or organisms cooperating to form ecosystems or buyers and sellers cooperating to form markets and economics, we will find grounds to believe that Darwinism is not enough, that natural selection cannot be the sole source of the order we see in the worlds; in crafting the living world, selection has always acted on systems that exhibit spontaneous order. If I am right, this underlying order, further honed by selection, augurs a new place for us — expected, rather than vastly improbable, at home in the universe in a newly understood way.
>
> (Kauffman, 1995:185)

The new union or "new tapestry" as Kauffman calls it, has an overall design, an architecture, a woven cadence and rhythm that reflect underlying law — principles of self-organization. However, a conceptual framework for it does not yet exist. We enter new territory which might as well be "The Gaia Hypothesis"[2] Nowhere in science is there an adequate way to state and study the interweaving of self-organization, selection, chance, and design. In Kauffman's (1995:185) words: "We have no adequate framework for the place of law in a historical science and the place of history in a lawful science. . . But we are beginning to pick our themes, strands in the tapestry."

"Begin to understand" this new union is all we can now hope for. Furthermore, we realized that there are three underlying themes. First is self-organization, found in all the patterns of coevolution at higher levels — ecosystems, economic systems, even cultural systems. Selection is the second theme, powerful, but limited because all complex systems cannot be assembled by an evolutionary process. According to numerous scientists, selection could not truly act alone as

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[2] Simmons (1996) explanins that the term "Gaia" can be used as shorthand for the Gaia hypothesis, which is an holistic mode. of the outcome of global evolution and ecology considered together and associated with the name of J.E. Lovelock. The Gaia hypothesis revolves around the ideas of cybernetics, the study of control organizations. It stands conventional ideas about the evolution of life on their heads since its core is the statement that the Earth is a self-regulating entity with the capacity to keep the planet populated with living organisms which control their chemical and physical environment. Thus life did not evolve to fit the conditions of a cooling planet but adapted them to ensure its perpetuation.
The adaptation towards the perpetuation of life on Earth does not automatically mean human life and indeed if human activities violate the basic mechanisms then they are likely in the long run to be swept aside. The hypothesis suggests that the planet is not of itself and anthropocentric place; it could be the microbes and the amoebas that next inherit the earth.

(Simmons, 1996:32)

the sole source of order in the emergence of life and its subsequent evolution. It is important to understand what kinds of complex systems can actually arise this way. The inevitability of historical accident is the third theme. Kauffman (1995:186) claims that "History arises when the space of possibilities is too large by far for the actual to exhaust the possible." All three themes, as many scientists, economists and sociologists agree, can easily be applied in any discipline, and possibly in the city as our study argues. This is what we can understand at this point and, and as Kauffman comments: "Evolution is surely 'chance caught on the wing,' but it is also the expression of underlying order".

Chaos of Global Civilization

Like it or not, some form of Global Civilization is emerging. We are at that particular time in history when population, technology, economics, and knowledge spin us together and it is really difficult to grasp very much of what we are creating. Similarly as in natural sciences, we do not understand the functional order among the elements of our public world — political, economic, cultural, and how they link into webs of elements that act on one another and transform one another. We call these transformations "history." An inevitable question that arise here is if there is a place for law in the historical sciences and whether we are able to find lawlike patterns in culture or economy (so we can controle it).

Control

> God plays dice with the universe, is Ford's answer to Einstein's famous question. But they're loaded dice. And the main objective of physics now is to find out by what rules were they loaded and how can we use them for our own ends.
>
> (Gleick, 1988: 314)

We have presumed to command and control over nature, based on our best knowledge, based on the availability of resources, renewable or not, and even our best intentions. But, as Carson (1962) points out, we let loose pesticides on our crops; the insects become ill and are

eaten by birds that sicken and die, allowing the insects to proliferate in increased abundance, so the crops are destroyed. We tried to plan and master " ideal city", "ideal neighbourhood", and in many case products of such masterplans were far from ideal. As Koolhaas comments this: "Too many architects' visions have bitten the dust." Somehow, unanticipated consequences of economic growth, urban growth, always arise. So much for control. Many times so far let's say that we do not know what we are doing. In a way, it is exactly the same thing Jane Jacobs (1961) was telling us about pretended order:

> There is a quality even meaner than outright ugliness or disorder, and this meaner quality is the dishonest mask of pretended order, achieved by ignoring or suppressing the real order that is struggling to exist and to be served.

All we can do in the meantime is to seek the laws for the evolution of coevolution, and be locally wise, even though our own best efforts will ultimately create the conditions that lead to our transformations to unpredicted ways of being.

Economics and Other Disciplines

In 1987, John Reed (chairman of Citicorp) asked Phil Anderson (a Nobel laureate in physics) and Ken Arrow (a Nobel laureate in economics) to organize a meeting to bring economists together with physicists, biologists, and others. Kauffman tried to apply ideas about fitness landscapes to technological evolution. The results, as explained in Kauffman's book (1995), showed striking parallels, and it seems worthwhile to consider seriously the possibility that the patterns in biological and technological evolution are governed by similar general laws. General laws seem to govern the evolution of complex entities, whether they are works of nature or works of man.

> With the car came the oil and gasoline industry, motels, paved roads, traffic courts, suburbs, shopping malls, and fast-food restaurants. Organisms speciate and then live in the niches created by other organisms. When one goes extinct, it alters the niche it helped create and may drive its neighbors extinct. Goods and services in an economic web live in the niches afforded by other goods and services. . . Many of the goods and services in

a modern economy are "intermediate goods and services" which are themselves used in the creation of still other goods and service. . . If we knew the "laws" governing which goods and services were complements and substitutes for one another, we could predict which niches would emerge as new goods were created. We could build a theory about how the technological web drives its own transformation by persistent creation of new niches.

(Kauffman 1995:283)

The increase in diversity and complexity of molecules, living forms, economic activities, social and cultural forms — all demand an understanding of the fundamental laws governing the auto catalytic creation of niches.

Mandelbrot's Art and Fractal Geometry

The study of chaos has created a new geometry — fractal geometry — which permits the description of natural forms, and new metaphors which can be transferred to the study of other previously overwhelming and intractable data (the realities of global economics for example).

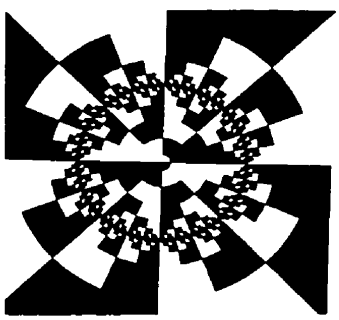


Illustration 5.
Binary Decomposition

Fractal geometry was invented by Benoit Mandelbrot

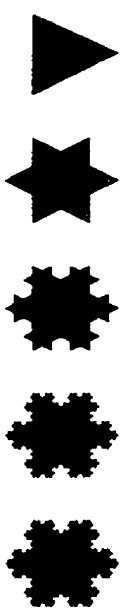


Illustration 6.
Construction of the Koch curve

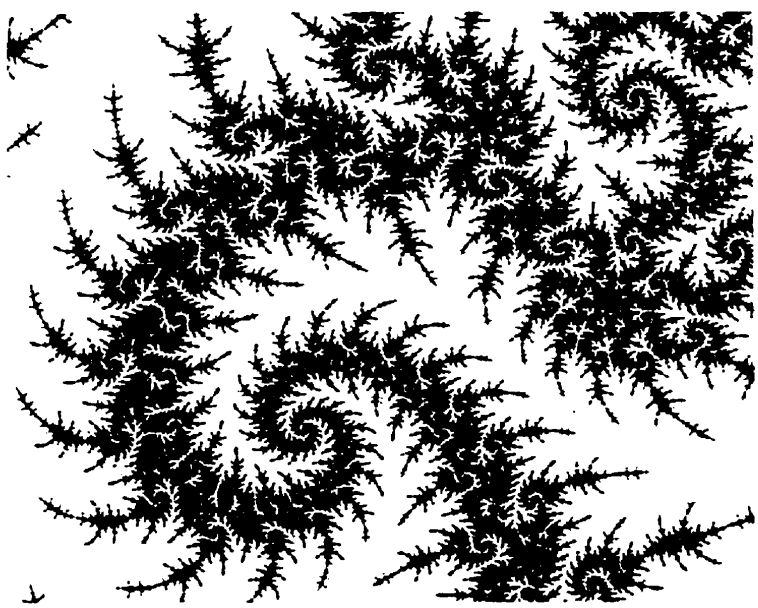


Illustration 7. "A Global Vortex of Local Vortices" (A Small Region of the Mandelbrot Set)

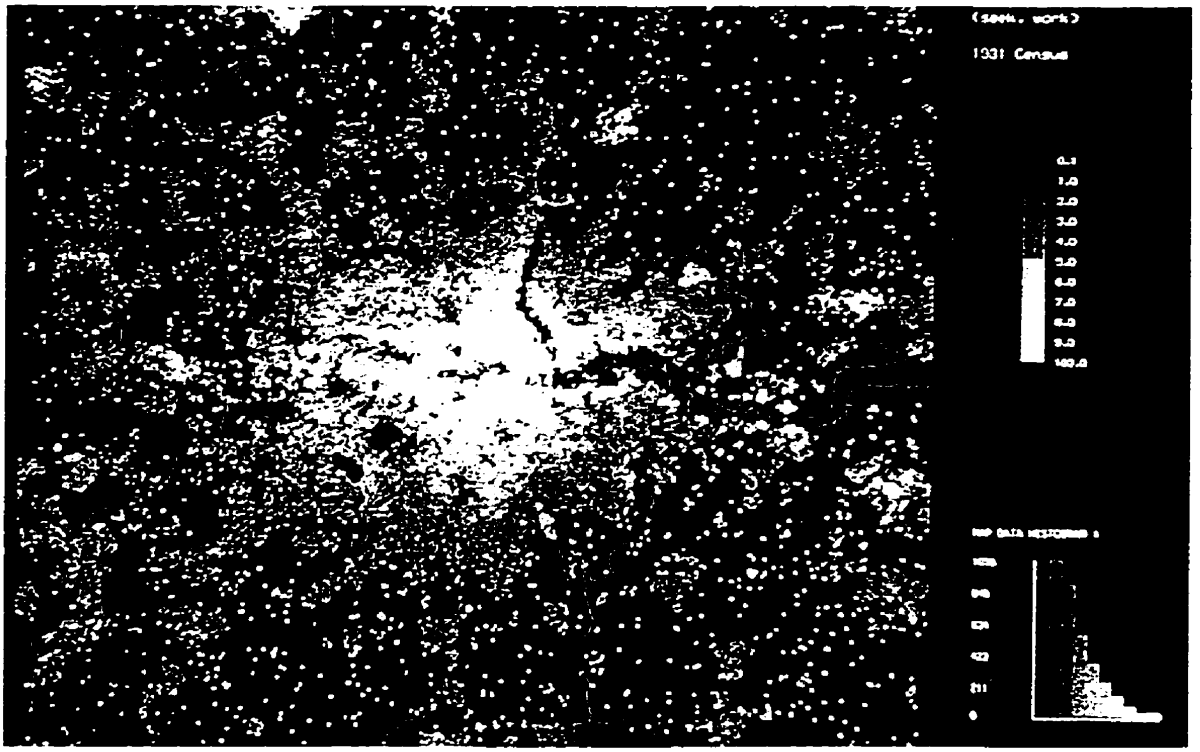


Illustration 8. Fractal London.

over a thirty year period from 1950. It burst onto the academic stage around 15 years ago through its ability to generate highly realistic computer graphic scenes of the natural world, which were popularized in Mandelbrot's (1983) remarkable book. He argues that our feeling for beauty is inspired by the harmonious arrangement of order and disorder as it occurs in natural objects — in clouds, trees, mountain ranges, or snow crystals. The shapes of all these are dynamic processes jelled into physical forms (see illustrations 5 and 6). A geometrical shape has a scale, a characteristic size. To Mandelbrot, art that satisfies lacks scale, in the sense that it contains important elements at all sizes: "It has no scale because it has every scale". Opposite of simplicity of modern architecture, he suggests detailing of Beaux-Arts (see illustration 7). An observer sees the building from any distance and finds some detail that draws the eye. The composition changes as one approaches and new elements of the structure come into play.

What fractal geometry attempts to do is to provide a framework for tying together previously unconnected and diverse concepts thus enabling the assembly of a "bigger" picture. In this sense, the world is seen as largely fractal and cities offers some of the best examples of this. In his book Fractal Cites, Michael Batty (1994) presents an initial attempt to apply fractal geometry to cities. In fact, he argues that cities are fractal in form and that much of our pre-existing urban theory is a theory of fractal city. He illustrates these ideas with hypothetical and real cities and with simulations or models. Fractal geometry here is being mostly used to explore the ways in which artificial or man-made systems develop and are organized[3]. The typical urban models proposed in his book are concentrated upon the location of and interaction between economic activities such as employment, population and transportation at the macro-spatial level where cities are divided into large zones.

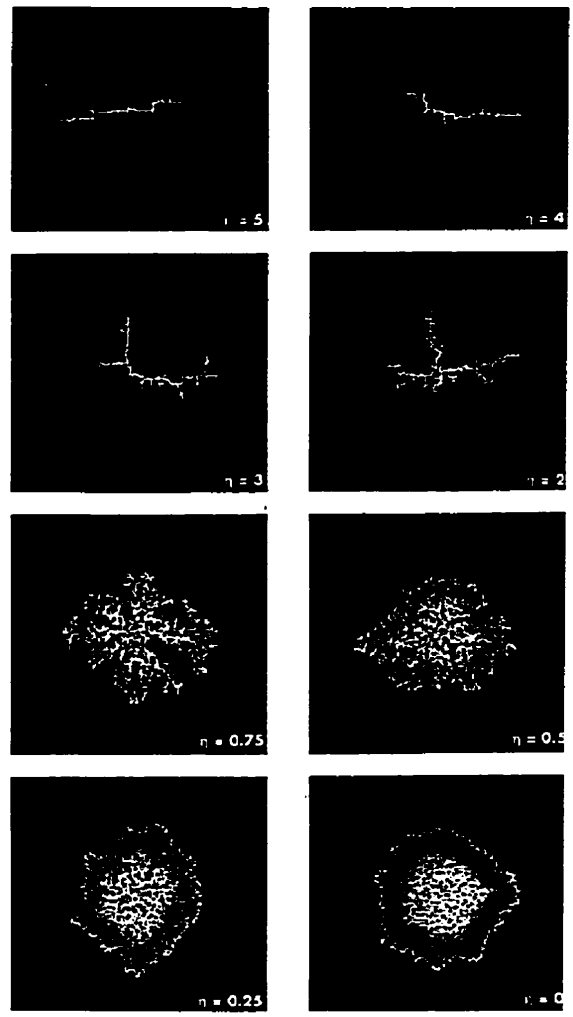


Illustration 9. Simulation of Urban Forms Generated by Systematic Distortions.

[3] Mathematical models of city systems implemented on computers were first developed 30 years or more ago, but the theories of spatial organization and location used therein originated in economic theory from the early 19th century onwards.

Part 2

The City

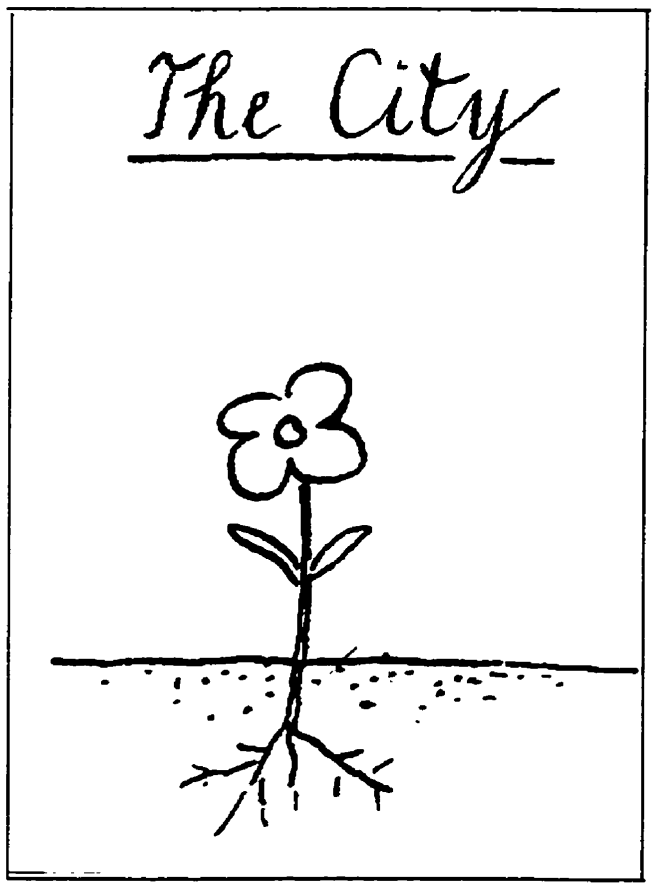


Illustration 10. Leon Krier

The City

Come on! Let's make bricks
and bake them hard. . .
Now let us build
a city with a tower that reaches the sky,
so that we can make
a name for ourselves and not be scattered
all over the earth . . .

Genesis 11, 3-5

The fundamental reason we establish cities is to enhance the quality of life of people. Cities can be defined as a concentration of diverse people, goods and facilities within a limited area, brought together to widen the possibility of choice while reducing the need to travel.

According to Kevin Lynch (1981), the city is an artificial world, "made by art" and "shaped for human purposes." Consequently, the making of a city is a temporal art, but it can not be controlled by limited sequences of other temporal arts like music, because there is no final result, only "a continuous succession of phases." As an art piece, the city is perceived through its exterior environment, its shape, the character of its buildings, streets and larger public spaces, its relationship to the countryside and harmonious siting (see illustration 11 and 12). However, all those elements are the product of the physical constraints of the land and economic and social forces that are driven by powerful evolutional processes of life that are discussed earlier. Although, it might seem, for example, that the charming medieval town grew organically, its formation was subject to definable patterns of economic, social, and political behavior, as well as

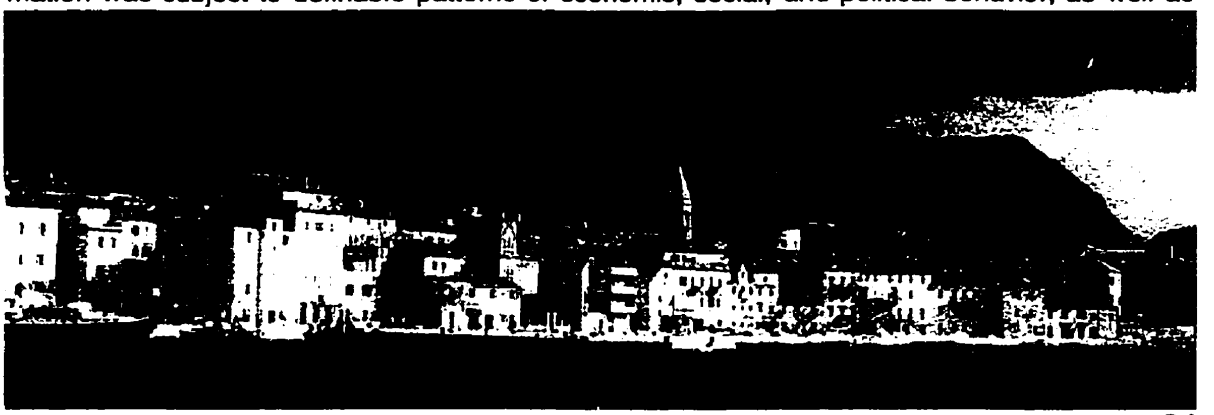


Illustration 11. Makarska, Croatia.

processes of self-organization, selection and historical accident.

Nevertheless, whether we shape them or they shape us in these processes of evolution, cities are expressions of what we are like and, as Relph (1987) comments: "our lives are impoverished precisely to the extent that we ignore them."

The Pre-Industrial City

> It seems to me that one of the pleasantest things in cities, and yes, one of the most useful, is the coming together and mingling with other people. And that, by Zeus, is truly a city where there is much of this.
> (Libanius A.D. 360, cited in Girardet, 1993)

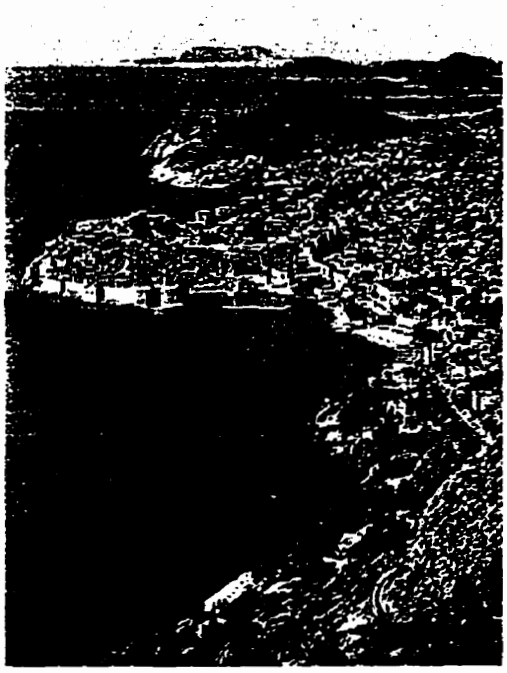


Illustration 12. Dubrovnik, Croatia.

In the pre-industrial city, before the nineteenth century, most industries and businesses were local and small concerns, and this was reflected in the way in which they generally fit into their particular settings. They were made from local building materials and were in scale with their environment. The city borders were defined, and both, city and country remained distinct and separate places, although each depended on the other. From the social aspect, the city always seemed to promise freedom, as in the medieval conception of the urban as the "free cities" under the control of the citizens rather than of the feudal overlords.

Illustration 13. La Rocher-sur-Yonne, France.
The geometric plan superimposed upon a Medieval landscape in 1804.

A symbiotic relationship existed between the land and related settlement; the land produced the food and raw materials for the settlement which, in turn, returned the by-products, organic wastes, to the land to enrich the soil[1]. Since the settlement was built and operated on solar power, its size was limited by what stored energy was available from organic materials; running water and direct sunlight. However, as soon as city growth exceeded the limits of its resources, by usually having exhausted the land that fed them , it stagnated and declined. The examples of city growth and decline are numerous throughout urban history[2]. Nevertheless, the pre-industrial city was designed, as Michael Hough (1984) notices, to address variations of climate, topography, agricultural soils, and water supply. As a result, communities were embedded in nature and local climate, plants, vistas and harbors defined the unique identity and the special qualities of each place. Lack of theoretical or aesthetic pretension,

Illustration 14. Authentically and unselfconsciously made places -- Castle Combe, Witshire and Vieille Brioude, Auvergne.

[1] For instance, fruit and vegetables consumed in New York and Paris came from market gardens whose soil had been enriched with night refuse. Girardet (1991: 52) states that Paris has long been surrounded by market gardens. In the late 1800s the Russian urbanist Kropotkin was impressed by their productivity, achieved by recycling and composting human and animal wastes, irrigation, heated beds, and glass houses achieved huge yields on 860 hectares worked by 5000 people. They supplied the 2 million Parisians with fruit and vegetables; excess produce was sold to London.

[2] The Ancient city of Ur which probably had around 50,000 people, was destroyed due to massive flooding and soil erosion from the hills that border the plains of Mesopotamia. The appetite of the ancient cities for timber and farmland had denuded the hills and caused the first man-made environmental disaster. Similar events transpired to Uruk, Nineveh and Babylon. The great city of Teotihuacan was at its peak by AD450, with a population of 140,000 people, and was an important commercial and trade centre. It was located on a rich alluvial plain, ideal for irrigated agriculture. Since the valley was small, food had to be brought in from further afield and exchanged for trade goods such as obsidian. After AD500 the city declined , mainly because supplies of obsidian ran out. and at the same time deforestation of local hillsides increased aridity and soil erosion, making farming difficult. Finally, around AD750, the city was looted and burned, signaling its end.
In AD100 Rome was the world's largest city. In order to feed itself "the eternal city "drew on resources from further and further afield, depleting forests and farmland within the reach of its fleet. Rome's fall was due both to the decline of the forests and farmland, and to the demise of its mercenary army, the guarantor of its overstretched supply lines.

(Girardet, 1993:38-43)

working with site and climate, a respect for other people and their buildings, and thus for the complete environment both man-made and natural, the use of traditional solutions to traditional problems, created places that reflected the total physical social, aesthetic, spiritual, and other needs of a culture, and in which all those elements were well adapted to each other. The end result was places which fit their context and particular setting and had a distinct and profound identity. These, what Relph called "authentically created" or "unselfconsciously designed," places were vernacular. They were organic, spontaneous, untidy, and extremely complex.

Our view now about the shape and form of those cities is that their irregularity and messiness is simply a superficial manifestation of a deeper order. Diversity and activity of these cities derived from complexity, and is crucial to their survival over the centuries. Similarly as any ecosystem, they evolve successfully only if they have a "rich gene pool" — different niches and linkages. The three prime characteristics — continuity, complexity and concentration have survived the passing of time and they still define the basic nature of most European and some North American cities.

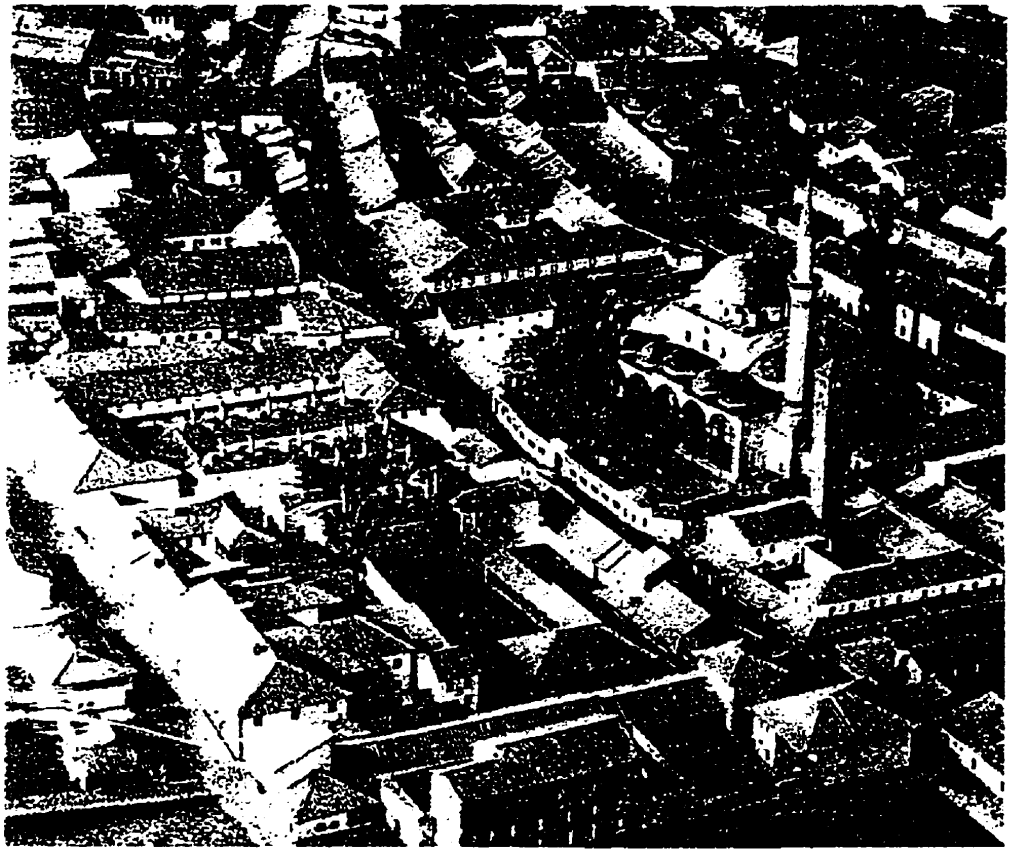


Illustration 15. Sarajevo, Historical City Core, Bosnia and Hercegovina

The Industrial City and Its Derivatives

The connection between the land and settlement was maintained until the Industrial Revolution. Long-distance trade and coal mining were two major factors that changed the world. In the 17th century coal began to attract much investment and coal[1] mining areas soon become the sites for new industrial cities. Industrial production became the motor of urban growth. Gerardet (1992) points out that when steam engines were no longer stationary, but able to power locomotives and ships, they become the real force behind the growth of the cities of capitalism and colonialism. This happened first in 19th century Britain, closely followed by Belgium and Germany. Provincial German towns grew into vast conurbation and urban growth was phenomenal[2]. Industrial production became the motor of the urban growth in Britain. Industrial cities such as London, Newcastle, Birmingham, Leeds, and Manchester became the British counterparts of colonial centres such as Calcutta, Sydney, Lagos, Mombassa and Montreal. Monumental factories sprang up everywhere to house the huge stationary engines and machines. During the Industrial Revolution, cities evolved from living places to places of work. As factories grew, so did "separate territories, assigned to poverty" for a new urban "working class" with the role of machine minders (see illustrations 16). As stated in Girardet's book (1993), in Liverpool in the

Illustration 16. The interior of a 19th-century pottery in Lambeth, London.
Left - A view of Sheffield, England. The industrial scene ". . . tall chimneys . . . poured out their plague of smoke, obscured the light, and made foul the melancholy air. "

[1] By the 17 the century Britain's economy had outgrown its resources of timber, firewood, and charcoal; coal came to the rescue. Coal production in Britain rose from three milion tonnes in 1700 to ten million tones by 1800.

[2] The Ruhr population increased from 237,000 people in 1843 to 15 million in 1895.

1880's population density reached 3000 people per hectare — people lived anywhere they could, even cellars were packed full. The new cities were "manheaps, machine warrens, not organs of human association." Coal smoke began to damage the forests that had been rescued by substituting coal for firewood. Although the new cities were blanketed with acid smoke, and breeding grounds for bronchitis and tuberculosis, the people kept coming.

Alternatively, Ebenezer Howard offered a new kind of town — the Garden City (see illustrations 17 and 18), where every family enjoyed their own private plot of country with industry kept well away. His vision was adopted in the 1920s in North America, and was developed further by Lewis Mumford, Clarence Stein, the late Henry Wright, and Catherine Boyer. While they thought of themselves as regional planners, Catherine Boyer called this group the "Decentrists," for the primary result of regional planning, as they saw it, would be, in Jacobs' (1961:20) words: "to decentralize great cities, thin them out, and disperse their enterprises and populations into smaller, separated cities or, better yet, towns." As a result, the developments such as Sunnyside Gardens near New York, Chatham Village in Pittsburgh, and Radburn, New Jersey, which

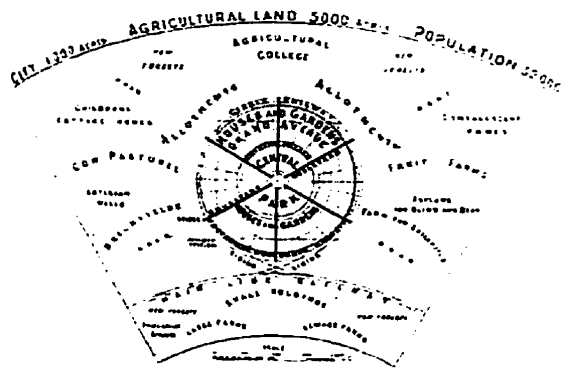
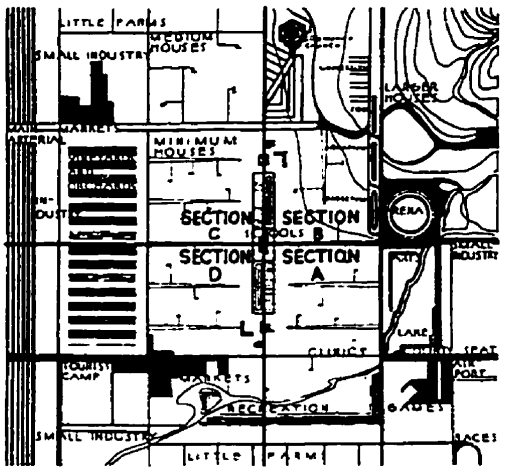
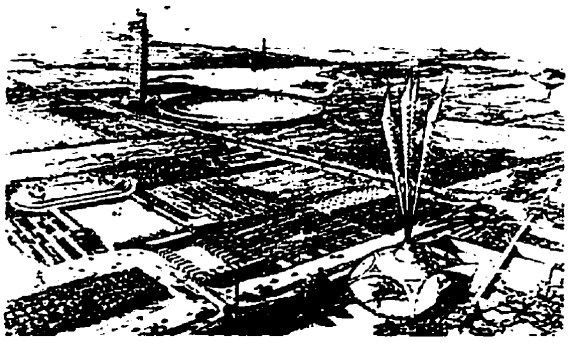


Illustration 17. and 18. The Garden City was to be encircled with a belt of agriculture. Industry was to be in its planned preserves; schools, housing and greens in planned living preserves, and in the center were to be commercial, club and cultural places, held in common. The maximum population was to be held to thirty thousand people, by the permanently controlling public authority, thus preventing it from ever becoming a city.

assumed to be continuation of Garden City idea, ended up as leafy suburbs[4]. Borders between cities and country became less obvious. From the social perspective, an interesting thing happened: while the story of pre-industrial cities was of people trying to get into town, here, in the industrial town, people were trying to get out of it.



Illlustration 20. Broadacre City.



Illlustration 19. Broadacre City.

After World War I, a school of planning and architecture, born in France and Germany, proposed very different solutions to Howard's Garden Cities. Architects such as Le Corbusier, Mies Van Der Rohe and Walter Gropius invented buildings that were "machines for living," and the landscape became the location for the machine. Le Corbusier accepted the Garden City's fundamental image, and worked to make it practical for high densities (see illustrations 21, 22 and 23). The solution is to be found in the "vertical garden city"[5]. This attitude of architects of

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[4] One of the leading advocates of this ideal was Frank Lloyd Wright, whose "Broadacre City" (see illustrations 19 and 20), concept envisaged one-acre plots per family for most Americans. Wright was, of course, greatly influenced by the agrarian traditions of eighteenth- and nineteenth-century America, and while his proposals reflected those traditions and ideals, they hardly faced up to the desperate problems created by recent population growth in this country (an increase of 350 per cent in Wright's lifetime alone) and in the rest of the world.

[5] "The whole city is a Park," Le Corbusier wrote. His vertical city would house at 1,200 inhabitants to the acre; however, since the buildings were so high, 95 percent of the ground could remain open. The high-income people would be in lower, luxury housing around courts. He included great arterial roads for express one-way traffic. He cut the number of streets because "cross-roads are an enemy to traffic." He proposed underground streets for heavy vehicles and deliveries, and of course like the Garden city planners he kept the pedestrians off the streets and in the parks. His city was like a wonderful mechanical toy. Furthermore, as Jacobs (1961) points out, his conception, and architectural work, had a dazzling clarity, simplicity and harmony. "It was so orderly, so visible, so easy to understand. It said everything in a flash, like a good advertisement."

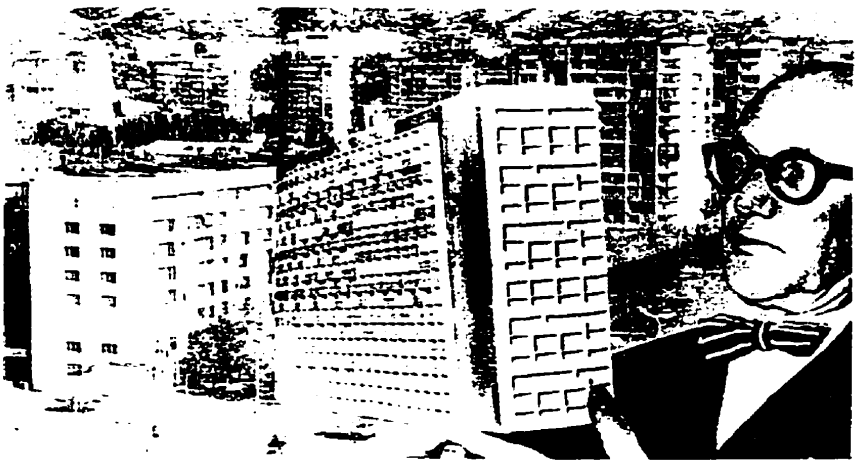


Illustration 21. Le Corbusier holding a model of his "unite d'habitation".

the Modern Movement toward open space, treated buildings as isolated objects in the landscape, not as part of the larger fabric of streets, squares, and open spaces which characterized the traditional city; it has produced a landscape whose creation and survival depends not on natural determinants, but on technology and high energy inputs [6]. Nevertheless, the International Style, as well as the Garden City vision, had an immense impact on the process of urban development in most North American cities and European suburbs.

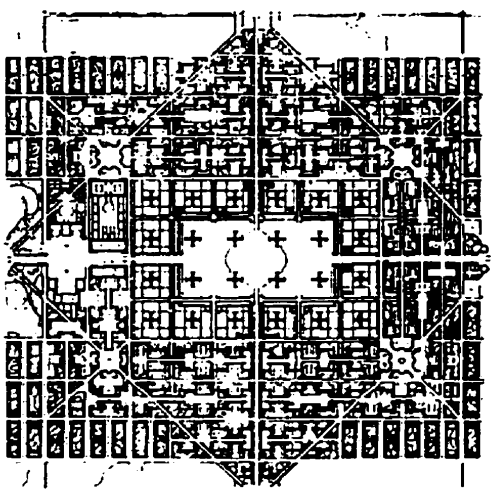


Illustration 22.
Le Corbusier. Contemporary City.

Beginning in the early 20th century, the existing environmental disciplines, architecture and planning, had become professions with increasingly specialized and protected areas of activity. Architecture's concern was with the design and production of a

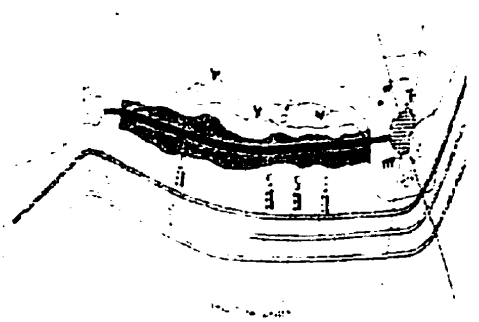


Illustration 23.
Le Corbusier. Contemporary City.

[6] The creation of rooftop landscapes, for example, involves a building structure capable of withstanding the weight of soil for trees between 500 to 600 lb per square foot. Planting requires artificial irrigation to survive exposure and drying winds and imported soil must be lifted. When we consider maintenance with machinery, fuel, fertilizers and herbicides that are necessary to support an unchanging plant community, we are faced with long-term consumption of energy to sustain a landscape whose sole function is its aesthetic amenity.

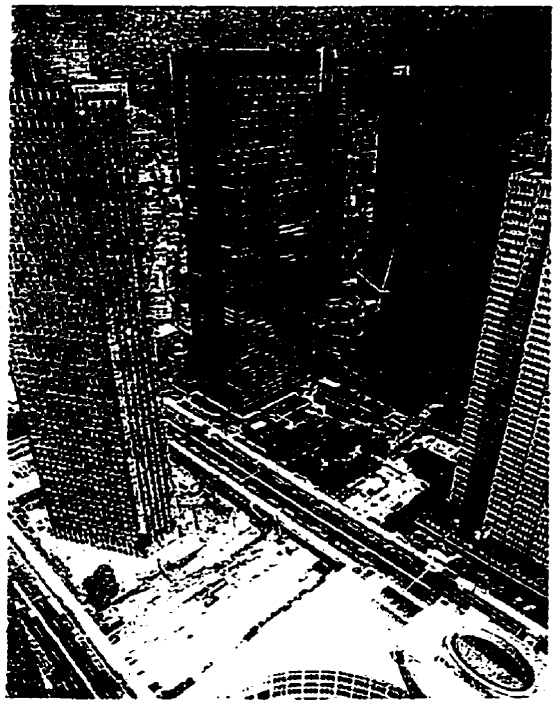


Illustration 24. Skyscrapers.

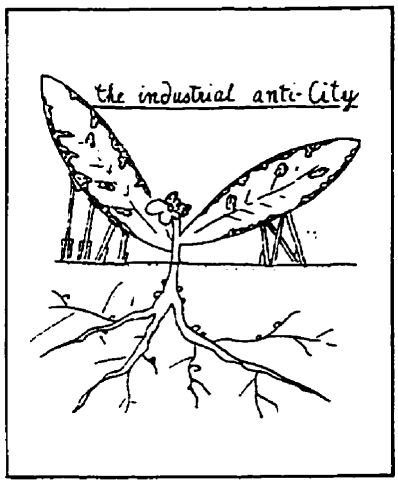


Illustration 25. Industrial City.

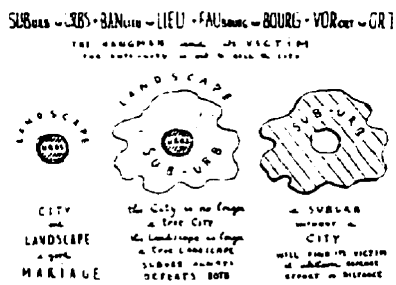
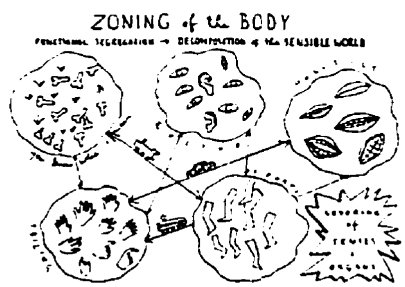


Illustration 26 and 27. Zoning of Idustrial City (right), and suburban development (left).



building, while planning took responsibility for the general disposition of land uses through policy formulation, plan making, development control systems and for the detailed regulation of individual building projects. The gap that these institutionalized professions created was the public realm itself — the void between buildings, the streets and spaces that constitute our everyday experience of urban places. Urban "concentration" has not disappeared as Wright envisaged, but has grown into collections of high-rise towers that now dominate downtown skylines worldwide since central urban locations are in great demand for business. Megastructures are the visible expressions of administrative megamachines, so they often occupy entire city blocks and dominate their surroundings (see illustration 24)[7].

[7] Examples of those megastructure are: World Trade Center, the Rialto Project in Melbourne, the Barbican in London, the Renaissance Center in Detroit, La Defense in Paris, etc.

With earlier assaults on the modern project as heirs, philosophers, social scientists, and literary critics, have begun to speak of the dissolution of foundations, and to develop theories of poststructuralism, and deconstructionism. This was the result of two accordant developments: the dissolution of the central city as a political, economic, social, and symbolic focus; and, the general dissatisfaction with the products of modern architecture and city planning, namely zoning and land use practices (in American central cities and European suburbs), and mass-produced tract housing throughout the world (see illustrations 28 and 29). In modern suburban environments individual autonomy and the freedom to participate in making one's own place and community has been sacrificed to social and environmental manageability. Relph hesitates to describe these processes of total design and hyperplanning in the suburbs as "totalitarian", although he believes that they are authoritarian because all the decisions about designs, layout, appearance, population sizes, social mixes, types or housing, park and school facilities, access to stores, and everything else, are made by the designers and planners. Most of their design or planning is founded on an implicit assumption that space is uniform and objects and activities can be manipulated and freely located within it.

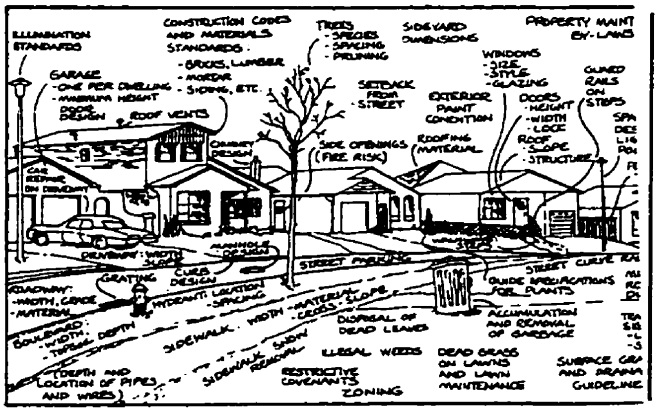


Illustration 28 and 29. Suburban hyperplanning. The detached and authoritarian approach of the professional and expert to urban design.

These "selfconsciously" made places attempt to create places that reflect a clear and

Illustration 30. "Spaghetti junction", Los Angeles.

complete conception of man, and is often the prerogative of elite groups and individuals rather than an articulated expression of the values of all members of a community. Placelessness, as Relph notices, is apparent in overriding concern with efficiency: things are laid out in a simple predictable way, behavior has been anticipated, there are no inconsistencies, contradictions or surprises. Urban reality thus becomes almost always unifunctional — one building or one planning zone — one purpose. Activities are neatly divided and related to each other by efficient communication systems. More movement demands more space to be converted from exchange space to movement space[8].

[8] Engwicht (1993) observes that cars can take up to thirty times more space to move each person than public transport. Ironically, the faster traffic moves, the greater the space it demands. Not only does faster traffic require a greater buffer front and back, it also requires a greater buffer on either side. In Western cities, movement systems currently occupy one-third to one-half of total city area, while the human body's movement system (blood vessels and blood) takes up just five per cent of the body's volume (see illustration 30).

Interaction and spontaneous exchange decreased because hostile territory is not the place where people hold intimate conversations. As the city structure divided, the same happened to income groups, ethnic groups, age groups; people become isolated in spite of our sophisticated networks of highways, computers, television, telephone, etc., because networks can not replace community.

This oversimplification, and pretended order (pretended because it doesn't encounter real, functioning order of living urban system), results with placelessness, uniformity and shallowness of experience, in Norberg-Schulz's (1980) phrase, "a flatscape." Relph (1981:137) comments: "There is nothing sinister or dirty, there is nothing here that is really interesting or challenging or that will make a lasting impression on visitors."

Cultural and geographical uniformity, as Relph (1981) notices, is not an entirely new phenomenon. For example, the spread of Greek civilization or the Roman Empire, involve the imposition of a homogeneity on formerly varied cultures and landscapes. It involves the imposition of a control, a "pretended order" that replaces diversity. What is new today is the grand scale and virtual absence of adaptation to local conditions. These are powerful processes of landscape modification which do little or nothing to create and maintain significant and diverse place.

Jane Jacobs was the first to force urban planers to rethink their practices pointing out what was wrong about the urban renewal and the garden-city movements at the time of her writing[9]. She noticed the kind of problem which cities have — a problem in handling organized complexity. She underlined the need of cities for a most intricate and close-grained diversity of uses that give each other constant mutual support, both economically and socially. Her original ideas give us the opportunity to look at cities in a different light.

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[9] Her book, *The Life and Death of Great American Cities*, published in 1961, is one of the most influential books in the history of city planning. She was critical of a planning style that destroyed communities, separated land uses, and rebuilt sterile areas. She argued and fought for an alternative view in which planners aimed to protect neighborhoods, mixed land uses, and paid attention to design details that matter to people.

The Post-Industrial City

In the late twentieth century direct, symbiotic relationship between city and its surrounding land, is completely replaced by dependency on a steady flow of supplies from the world's farmlands, forests, and oceans. Everywhere fossil fuels are vital links in a chain of production and supply. Cities are at the centre of this; Girardet (1992:86) states that the energy that flows through them today is at least a hundred times greater than that which flows through natural, unmanipulated ecosystems.

Therefore, cities are assuming an increasingly important role in present societies. They finance the transformation and processing of raw materials into consumer products. Modern cities are concentrations of money and power, and with that power they control and mold the world within their reach. Furthermore, they can profoundly affect life in distant places; International bank headquarters are the control towers of the global economy. Cities such as Tokyo, New York, Sao Paulo, London, Hong Kong, and Mexico City house the headquarters of banks and multinational corporations; they are the centres of financial power and dominate the global economy.

Illustration 31.

Globalization, electronic means of production, and uniform mass culture influence, in recent years, the emergence of a wholly new kind of city, a city without a place. This "ageographical" city, as Michael Sorkin (1992) calls it, is apparent throughout the world, but particularly advanced in the United States. It is visible in "huge shopping malls, anchored by their national-chain department stores, and surrounded by swarms of cars, in hermetically sealed atrium hotels cloned from coast to coast; in uniform 'historic' gentrification and festive markets; in the desegregated sprawl of endless new suburbs without cities." Furthermore, today this complex urban world is not confined to individual cities. A global network of cities is emerging which enables people to link up with each other over vast distances in trade and the exchange of ideas.

Cities Without Borders

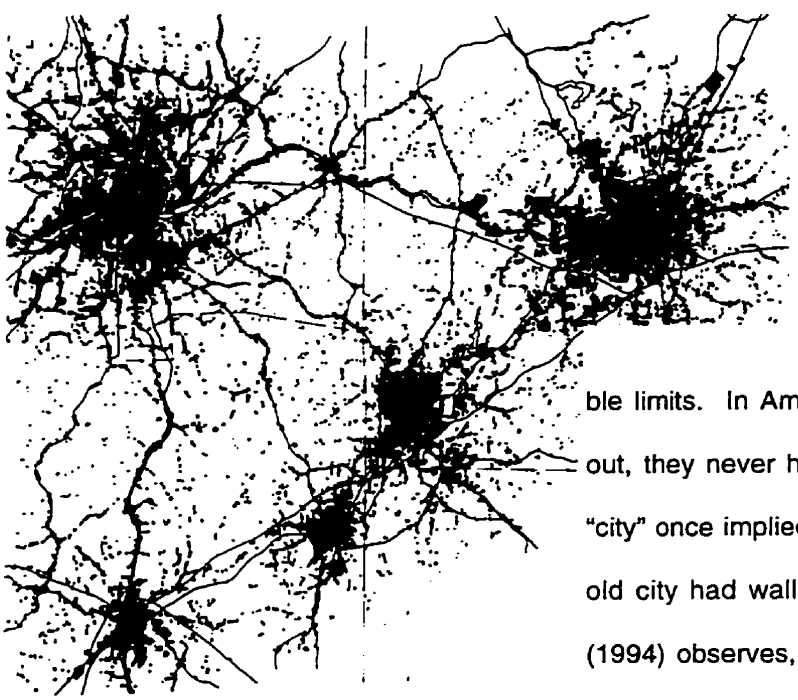

Illustration 32. Contemporary urban growth Patterns

With the exception of the cities that were laid in place before the turn of the century, we are no longer able to maintain defined urban entities. Cities today have no visible limits. In America, as Hough (1984) points out, they never had. In Europe the concept of "city" once implied a closed and finite entity; the old city had walls and gates; today, Jameson (1994) observes, "we no longer take the countryside as our vantage point but rather the city and the urban itself." The world system today tends toward one enormous urbanity.

Environment

Cities today have become very dependent entities. Gordon (1990:22) indicates that "A city of a hundred thousand people imports two hundred tons of food a day, a thousand tons of fuel a day, and sixty-two thousand tons of water a day. . . The other side of the equation is that it dumps a hundred thousand tons of garbage and forty thousand tons of human waste a year." Polluted air and water, toxic soil, receding natural habitats contribute to the destruction of neighborhood and home. City centres were deteriorated while valuable farmland or irreplaceable natural assets on the fringe of the city are converted into residential areas, shopping centres or work places. Destroying arable land and local economic decline around cities, forces more and more people to move to the city, and here we have positive feed-back in a closed loop: more people in the city mean more traffic, more suburb development and lost spaces, more pollution and decreasing quality of urban life.

Urban explosion

In a paper prepared for the World Commission on Environment and Development, (WCED,1987) the urban explosion was characterized as "the most radical and most rapid social transformation ever to have occurred." Urban growth is for the first time centered on developing countries. The urban population of the Third world will almost double between now and the year 2001[1]. Approximately half of humankind will be living in towns and cities, many among them in megacities.

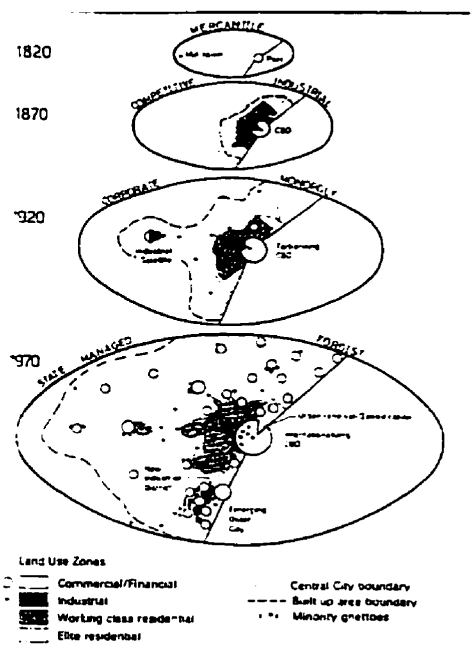

Illustration 33. The evolution of urban form -- prototypes of the North American city 1820-1970.

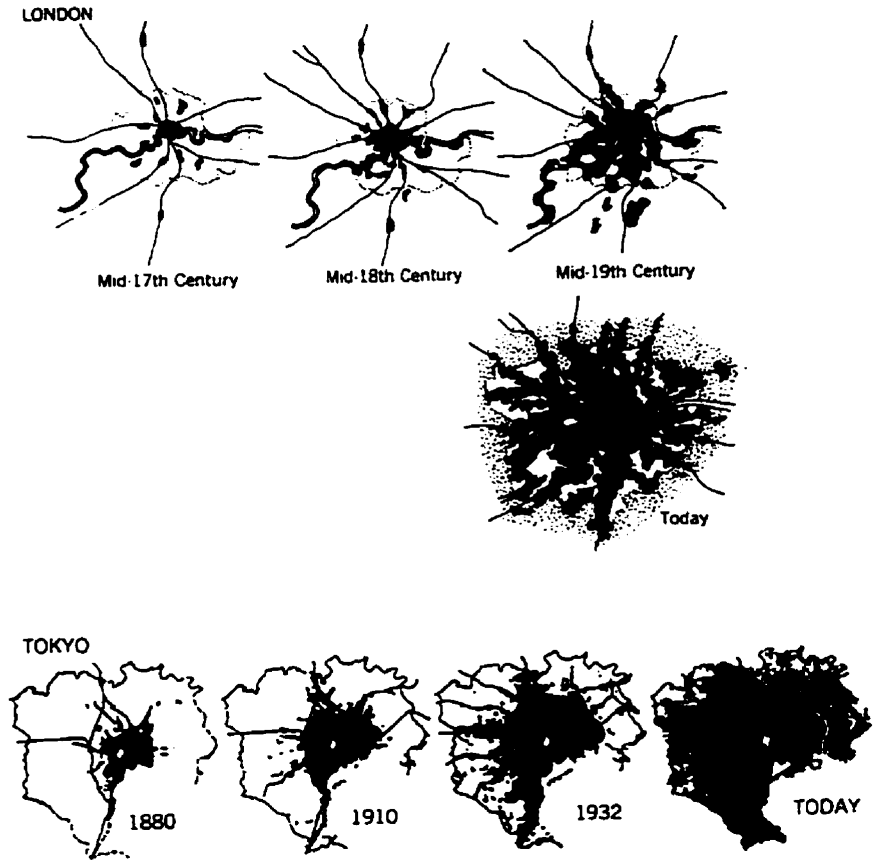

Illustration 34. The Exploiding Metropolis: London, Tokyo, New York City, Barcelona, Zurich, and Cicago.

The "Megalopolis" is recognized as such in 1961 by the geographer, Jean Gottman. Sometime between World War I, and II, New York became the first city with 10 million people; the world's first "megacity." At that time London was the only city to approach New York's size.

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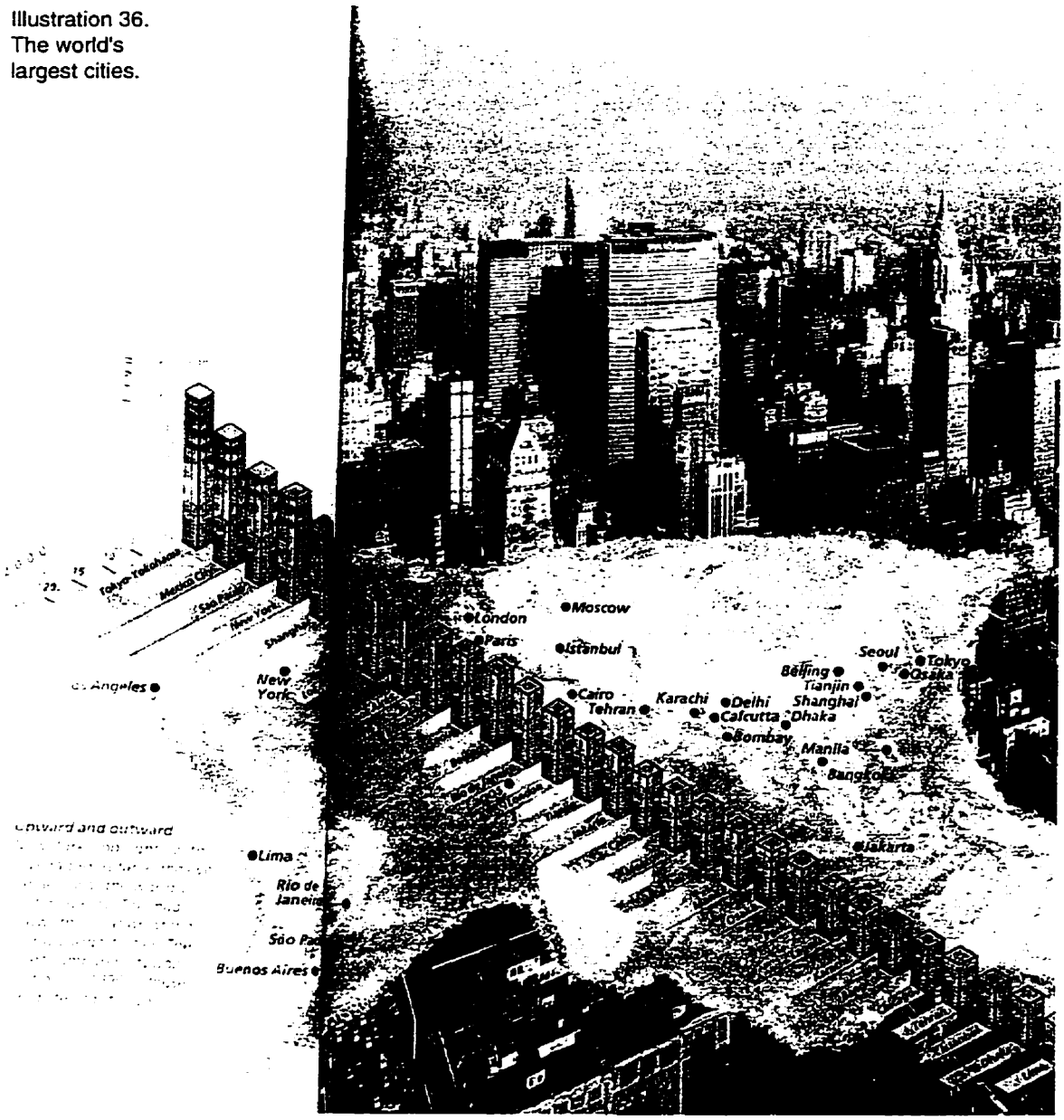
[1] From 1950 to 1990, as indicated by Charles Correa (noted at Johnson, 1985:32), the population of the world's cities went up from 200 million to over two billion, with three billion people expected by 2025. In 1925 less than 19 per cent of populations in the developing countries lived in cities. Between 1950 and 1975 the urban areas of these countries absorb 400 million people. From 1975 to 2000, according to the World Bank, developing-world cities are expected to increase by a further 1000 million. For instance, as recently as 1965, the population of Bombay was about 4,000,000; today it is over 8,000,000; by the turn of the century it is expected to cross 15 000,000. Today more than 45 per cent of the families in Bombay that is, almost 4000,000 people are in illegal squatter settlements or on open pavements.

Illustration 36.
The world's
largest cities.



However today, as pointed in Girardet's (1992:64) book, New York has long been overtaken by cities such as Tokyo, which has close to 30 million people, and Mexico City, which is nearing 20 million. Worldwide, 60 cities have now grown to over four million people (see illustrations 34,35 and 36).

The city in the developing world

Today there are 20 "megacities" of over 10 million people, and 19 out of the world's 25 largest cities are in developing countries. About half of this growth is due to high reproductive rates of people already living in cities. The rest of the growth is because of migration of rural people faced with declining living standards due to lack of land, depleted rural environments, or industrialization of agriculture. However, the real issue does not lie in trying to deurbanize our future civilization, and certainly does not lie in reproducing and spreading the actual patterns through the promotion of what have been called poles of development.

Illustration 36. Dhaka, Bangladesh. Congestion on the city streets is caused by hand carts, bicycles, and handdrawn rickshaws.

Some 20 million people move to cities every year, a human transmigration unprecedented in history[1]; however, urbanization is occurring without any significant opportunities for migrants. Cities expand outward as well as upward. Similarly as in developed-world, in many

[1] Girardet (1992:68-72) points out that Africa today has the fastest urban growth anywhere in the world, and many migrants are environmental refugees from badly depleted rural areas. Droughts and famines in Ethiopia, for instance, have driven hundreds of thousands of people into squatter camps in Addis Ababa and Cairo.

cities in developing countries tower blocks have turned into little more than high-rise slums, particularly if they are located far away from urban centres with little access to employment.

Illustration 37 Bombaj.

Developing-world megacities steadily harbour a major portion of their country's industry, providing employment for millions of people, but depriving smaller cities of an adequate economic base. The result was the rise in vandalism, gangs, and crime in those urban areas. Overcrowding (see illustrations 36 and 37) is a feature of most major world cities today, but in the cities of the developing world it is a fact of daily life[2]. Low-income families depend on the squatter settlements that surround most developing world cities. Urban centres are the preferred locations for the "informal settlements" (see illustrations 38 and 39, and newcomers to the city, if they are lucky, have a chance of a little shack in which to live rent free, but usually without even the most elementary services. Lack of sanitation, unclean water, air pollution, and poor job prospects is the reality and only option for millions of people who arrive every year from the provinces. Illegal building is the rule and challenge to authorities.

However, given half a chance (at least security of land tenure), people will gradually build solid houses, which they enlarge as their families grow and their financial situation improves. Typically, they manage to build five times as much for the same money as governments or local

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[2] Girardet (1992:72) states that Lagos tops all other cities with and occupancy rate of 5.8 people per room. By comparison, Indian cities average about 3 people per room, while North American cities have between 0.5 and 1 person per room.

Illustration 38. A street in the Palo Alto housing co-operative.

Illustration 39. A house near a Santa Fe refuse dump in Mexico City. Typical of first homes built by migrants.

authorities do (Girardet, 1992:125-130). Squatters have displayed a resourcefulness, and lately are recognized as a realistic solution that should be supported. In this way, squatter settlements gradually turn into "respectable" neighborhoods. Complexity, density, activity and events, in those squatters create "places" and a kind of vernacular urbanity without imposing any master-planning. We see here the same pattern: self-organization of apparent chaotic disorder. The new "fabric" can be described in terms of chaos theory; although it is not vernacular in the traditional sense, it is vernacular of a genuine heterogeneity and at the same time in accord with economic and socio-political processes.

The City in the Developed World

In the First World, urban degradation is present as well. Material that describes the present state of our cities is vast and redundant; however, I will try to be as precise and short as possible.

Jane Jacobs identifies a genuine urban fabric and street life, with small business. In the North American or capitalist city, corporations have driven small business out of existence, and created canyons of institutional high-rise without any urban personality at all. Many Western cities are decentralized by the implementation of new transportation technologies, real estate

speculation, government subsidies, and modern planning theory that called for dispersion and the separation of functions. Consequently, our society has developed systems that are fragmented; fragmented are the three fundamental functions of any economy: production, use, and disposal.

> We have separated the farmer from the kitchen, the power plant from the appliance, the worker from the work-place, and eventually, the bank from the depositor and the borrower, and the government from the citizen. Today, the average commuter travels about twenty to twenty-five miles to work; the average kilowatt hour travels about two hundred miles to do its piece of useful work, and the average food molecule travels a thousand miles to do its piece of useful work
>
> (Gordon, 1990:20).

Growth of the present "ageographic" city is no longer merely physical, because the new city also occupies a vast, unseen, conceptual space without stable relations to local physical and cultural geography. This invisible "Cyburbia", so appropriately evoked by Wriston (1992), "takes form as necessary, sprouting like sudden mushrooms at capital's promiscuous nodes." What is missing in this city is not a matter of any

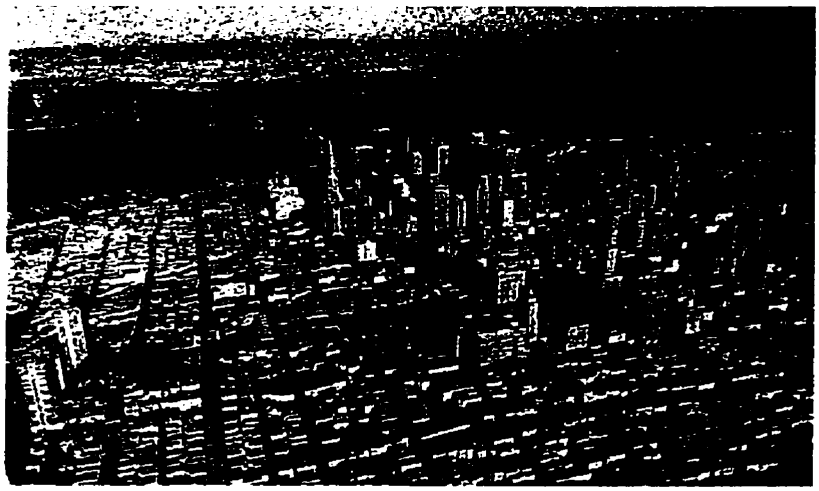

Illustration 40a. Grid-patterned maze with "crystal downtown centres." San Francisco.

Illustration 40b. The lights of Las Vegas.

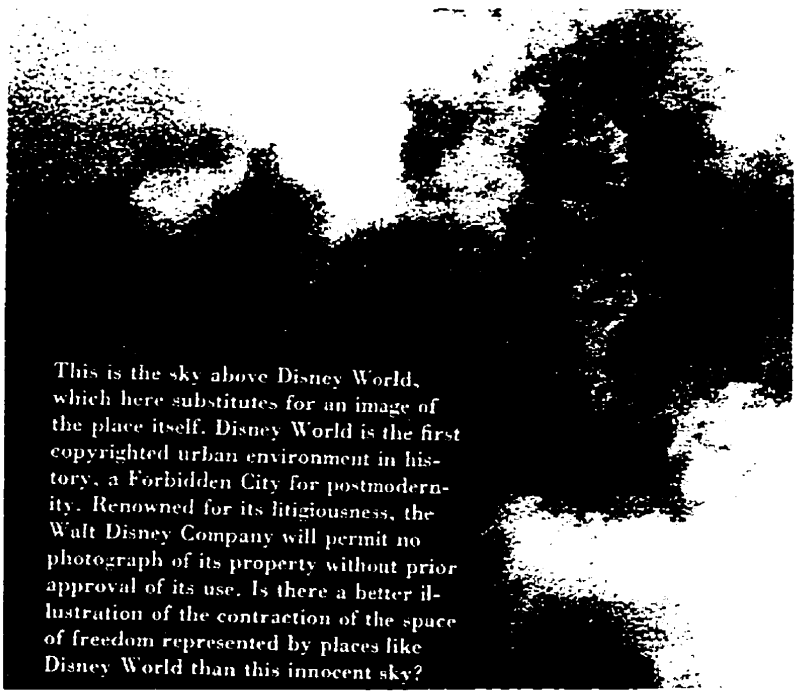

Illustration 41a. The sky above Disney World.

Illustration 41b. Main Street, Disneyland, Orlando.

particular building or place, it is the spaces in between, the connections that make sense of forms. Global abstract space established itself as a void waiting to be filled and colonized. The social practice of capitalism filled this space by commercial images, signs and objects (see illustration 41). The center is no longer unique but universal, no longer a place but a condition (see illustration 40), practically immune to local variation.

The present requires rapid access to information, rapid transmission; all notions of public life are increasingly influenced by expanding interactive technologies leading towards the profound reorganization of public space. The cyberspace takes shape at precisely the point where traditional definition of public space — as physical site, as historical monument, as street or town square — fail. Without community and a public, cyberspace offers new perception and movement whose significance is no longer as Birnbaum (noted at Davidson, 1995) states, "fixed by chains of mate-

rial cause or the once concrete terrain of the social". It is a limited substitute for the democratic public realm. Unfortunately, in the public spaces of the theme park or the shopping mall, speech itself is restricted because as indicated in Sorkin's book (1992),"there are no demonstrations in Disneyland. . . . The effort to reclaim the city is the struggle of democracy itself" (see illustrations 41a and 41b).

Edge Cities

Developments' trends on the United States since the early 1980s have favored urbanization on the outskirts of cities to form what become "outer cities," "urban villages", or most popularly, "edge cities"[3]. More or less, they are, as described by Soja (1992:95), "amorphous replacements of suburbia . . . where the metropolitan forms are undergoing radical deconstruction and reconstitution, exploding and coalescing today in multitudes of experimental communities of tomorrow." He names them collectively "exopolis, the city without, to stress their oxymoronic ambiguity, their city-full non-city-ness."

Illustration 42. West Edmonton Mall

A new kind of industrialization is creating a new kind of "peripheral" urbanization, a manufactured landscape of flexible economic specialization around nearly every major large metropolis. Jane Jacobs (1979) offers the example of Toronto that has been spilling

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[3] The list of titles by now has become rich, diverse, and according to Garreau and Soja it includes: urban villages, technoburbs, technopoles, outer cities, silicon landscapes, postsuburbia, exsuburban downtown, suburban activity centers, major diversified centers, urban cores, galactic city, pepperonipizza cities, a city of realms, superburbia, disurb, service cities, perimeter cities, and even peripheral centers or tomorrowland.

out enterprises into its nearby regions, causing many old and formerly small towns (or suburbs) and little cities to grow. In addition, many enterprises that needed a metropolitan market and a reservoir of metropolitan skills and other producers to draw upon, have established themselves in Toronto's orbit, in places where costs are lower or space more easily available. The English call a collection of cities and towns with this kind of economic integration a "conurbation".

These edge cities usually include: business centers, with high-rise buildings often housing high-tech activities, an enclosed shopping mall surrounded by parking lots, and some designated outdoor public space. They are accessed by high-speed thoroughfares: freeways, jetways, and jogging paths, from low-density residential areas.

Margaret Crawford (1992) observes that the enclosed mall, which is more or less "repackaging the city in a safe, clean, and controlled form," become a community and social center (see illustration 42)[4]. It provides the elements lacking in sprawling suburbs: public focus, human density and spatial centrality.

> Hanging out at the mall has replaced cruising the strip; for teenagers, malls are now social centers, and many even find their first jobs there. Now malls have become social centers for adults as well. The Galleria in Houston has achieved a reputation as a safe place for singles to meet, and "mall-walkers" — senior citizens and heart patients seeking a safe place to exercise — arrive at malls before the shops open, to walk a measured route around the corridors.
>
> (Crawford, 1992:15)

At the same time, there is an effort to render these developments more user-friendly than their modern predecessors. This is done through the architecture itself, by applying, as Ellin (1996:86) observes, "more color, ornament, narrative (themes), and wit; and through using names that recall traditional cities, such as town center, business center, main street, downtown, plaza, agora, town hall, marketplace, food court, and so forth."

While these suburban "cities" have been taking on urban attributes, the notion of center itself is dissolving and central cities have been acquiring certain suburban attributes such as fast-

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[4] At an early stage, malls began to introduce a variety of services, such as movies and restaurants, fast-food arcades, video-game rooms, and skating rinks, which signaled the malls' expanded recreational role. Since "mall time" has become and increasingly standard unit of measure, more promotional activities have appeared.

food restaurants, suburban-style shopping malls, and new middle-class residential districts. However, with this renewed focus on the periphery, Donald Olsen (1986) suggests, the central city "may revert to its pre-industrial role as a work of art, a symbol of prestige, a centre of specialized consumption a place to indulge in luxurious vice, to spend money made elsewhere."

The other model, is a high-tech masterplan called "Technopolis". The recent example of it is developed by Japanese social planners[5]. Winner (1992) points out that each Technopolis is to be built around an existing "mother city." Each will include and integrate a mix of industrial firms, academic institutions, and housing, along with a state-of-the-art digital information network, proximity to an airport or bullet-train station, and "a pleasant living environment conducive to creative research and thinking . . . Each would become a dynamic center of scientific discovery, technological innovation, and industrial productivity."

Similarly in Western Europe, peripheries increasingly become the site for urbanization, immigration, and government subsidy for building. Many architects and planners began the search for urbanity and the creation of centrality in those satellite cities, which implies industrial re-use, and the and the reorganization of suburban sprawl, as exemplified by the French program Banlieus 89, launched in 1986. Architects of all persuasions grew interested in designing on the edges of cities, including Krier (Berlin project), Rossi (1991, Berlin project), and Rem Koolhaas (Euralille). As Barre asserts, "it is on the periphery that urban development is now taking place."

Although it is difficult to talk about "true urbanity" in these cities without history, the appearance of libraries, theaters, schools, hospitals, and other public amenities and cultural facilities in these areas is obvious. The fact is that the edge has become the place in which the majority of First world cities now live, work, shop, play, pray, and die·

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[5] According to Langdon Winner (1992:53), as part of its multifaceted "take-lead" strategy for the twenty-first century, that starts with Silicon Valley in United States, the Ministry of International Trade and Industry (MITI) has started to develop nineteen science-and technology centers along the Japanese archipelago. The attempt here is, in the Japanese tradition of taking good ideas from abroad, refining them, and mass-producing them as high-quality products, to clone Silicon Valley many times over.

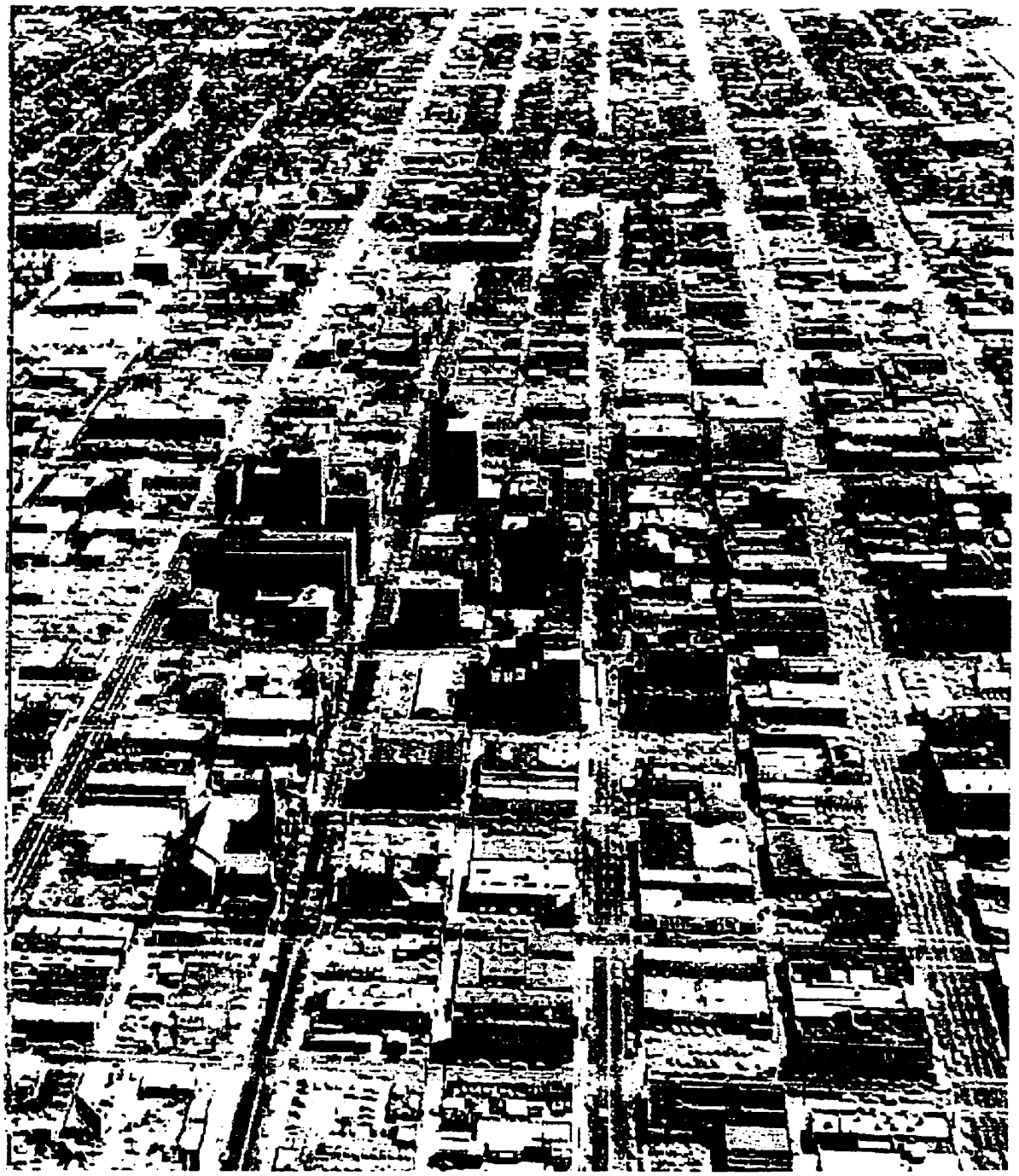


Illustration 43. Phoenix, Arizona.

Part 3

Issues of the Lived World

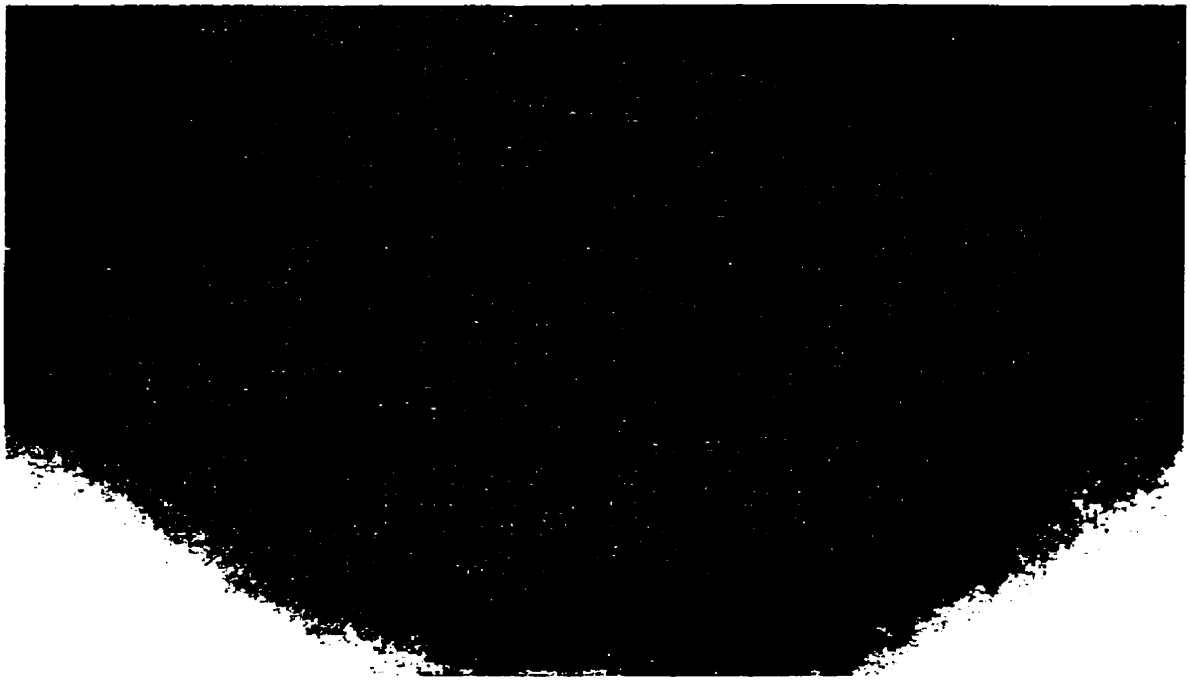


Illustration 44.

Issues of the "Lived World"

Since we aspire to address the "lived" world, one thing has to be pointed out. The word "lived" automatically implies complexity, interlinkage and overlapping. Technological issues can not be discussed without mixing some of the social or economic themes; economic issues can not be discussed without mentioning political issues unless we want to take the reductionist position. The whole idea is to understand those issues, even if we do not sort them precisely in the space they belong. Has it not mentioned at the beginning the importance of having views from different disciplines connected somehow? So even if we are trying to define them as separate, we will not separate them at any cost, and the proper titles would be, for example, "mostly technological issues" or "mostly economical issues". It is important to mention, as well, that it might seem that these different issues, which will be discussed in following chapters, are somewhat fragmented. As a matter of fact, they are not fragments, but they are fractals, parts of the whole, and the intention is that at the end of this study they start to fit together showing some of the whole.

Technological Issues

> We call ourselves by many names: Homo Sapiens, man the wise; Homo Habilis, man the able, the toolmaker; and, perhaps the most appropriate, Homo Ludens, man the playful. Each aspect makes its contributions to science. There is no one way, for our exploration depends on all three; wisdom to choose the path; techniques to find the answers; but always, always beneath the surface, playfulness. "Theory is the free invention of the human mind, "said Einstein, one whose wisdom and technique were almost beyond our ken, but at base, one who could play with the utmost freedom. It is this, the science of Homo Ludens, that expresses the most precious creative core of humanity. Here science is art. What honor and joy to seek the laws. Einstein sought the secrets of the Old One. We, although lesser, hope for no less. And sometimes, more often than should be the case, the playful joy of practicing science unexpectedly brings forth news of a promised land beyond the Sinai — technologies that will change the way we live. . . . We cannot shrink from our vision; yet we cannot foresee the consequences.
>
> (Kauffman, 1995:131)

An emeritus professor of the Massachusetts Institute of Technology, Cyril S. Smith,

points out that historically, necessity opportunistically picks up invention and improvises improvements on it and new uses for it. However, the roots of invention are to be found elsewhere, in motives like curiosity and especially, as Smith noted, "aesthetic curiosity[1]." If we put this invention issue in perspective and standpoint of our thesis, the whole process once again can be observed as a process of evolutionary self-organization, where an "aesthetic curiosity" takes its place as "historic accident", randomness, while process of applying new invention we can see as process of selection.

New Industry

It began with something very small; the microprocessor, the "computer on a chip"(see illustration 44), invented in the early 1970s. This invention would power the computerization of almost every line of work and the integration of automated subsystems to create manufacturing and management information systems. Through the late 1980s these systems were networked into larger systems both within corporate structures and among them. Gradually, communications became more central, and in the early 1990s the focus started to shift towards the networks themselves

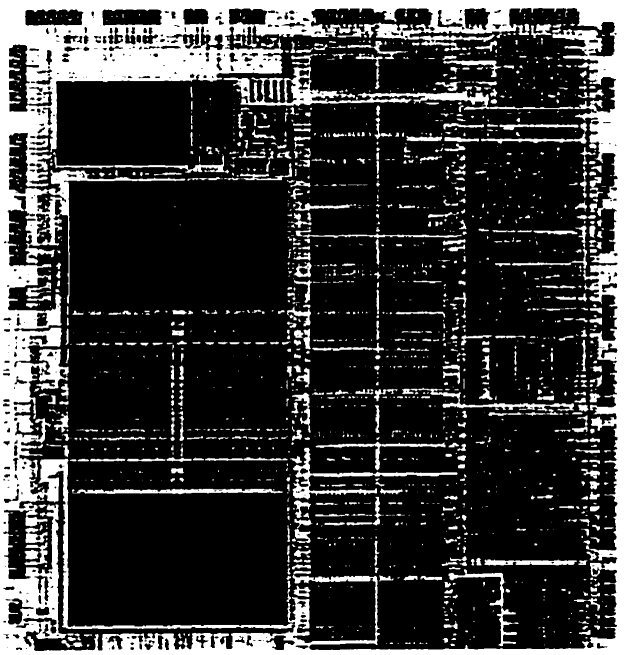


Illustration 44.
Computer chip.

[1] Even wheels were at first frivolities; the most ancient known to us are parts of toys. Metallurgy itself, Smith reminds us, began with hammering copper into necklace beads and other ornaments long before 'useful' knives and weapons were made of copper or bronze. Hydraulics and much mechanical ingenuity and many tricks were first developed for toys or other amusements. The chemical industry grew from the need for quantities of mordant, bleaches, and alkalies for use in the finer textiles and glass. Rockets for fun came before their military use or space travel and the first successful railroad in the world was an amusement ride in London. Scientists are used to the fact that discoveries are often the unanticipated by-products of other intentions. It is the same in the economic world: the first oil wells were drilled to get lamp fuel only a few decades before electricity was to begin making oil lamps obsolete; but other uses kept turning up for petroleum, once oil wells existed.

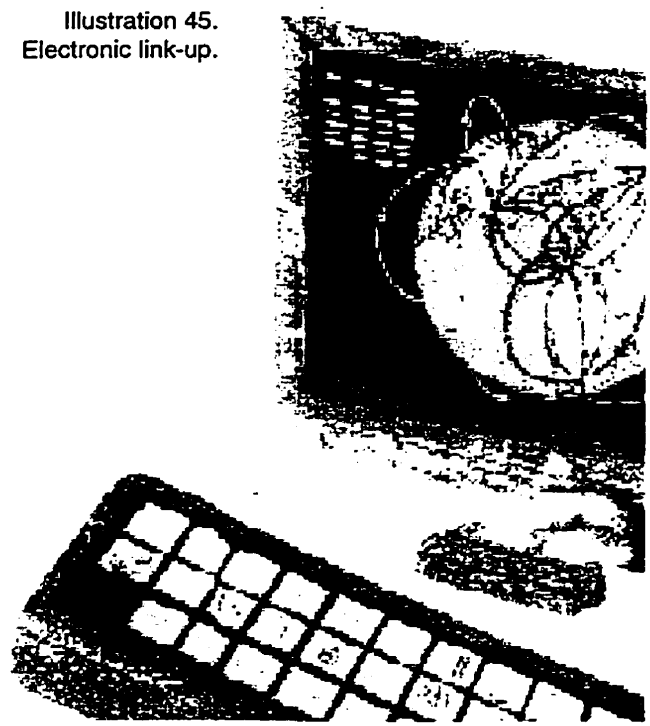
as the site of economic activity; not just the private corporate networks and local networks, but new generic networks and network services available through the powerful information infrastructure.

Consequently, most of the previous relations of production have been altered and the whole value system has been distorted. Main industries are no longer interested in heavy equipment and steel production, but rather in information: software, computers, air and "space technology", inventions in genetics, and above all in the electronics industry, the largest manufacturer on the planet. As Professor Marshall McLuhan (1964) has suggested, information is no longer an instrument for producing economic merchandise, but has itself become the chief merchandise. The significant part is not the invention of any particular technology, but the sudden emergence of an integrated system of global communication that is quick and effective.

Communication, Cyberspace and Reality

The information space (see illustration 45) is according to Menzies (1996:7) a "webwork of powerful computer-communications networks capable of handling everything from video to voice, text to computer data and graphics, interchangeably, interactively, and at lightning speeds. Including private corporate networks, the Internet, and conventional cable broadcast and communications carriers now venturing into multimedia, the information highway is becoming the site of business deals, of money changing hands". It is a realm in which

Illustration 45.
Electronic link-up.



geography no longer exist. It is the place where work is dispatched to new global and local labour markets, where work itself is done and supervised. It is increasingly the way that we do anything, and as Jean-François Lyotard (1991) put it, it becomes our new "nature." William Gibson (1984) named this space as "cyberspace". For him, cyberspace, in a very real sense, is the place where any telephone call takes place, as well.

At Britain's first virtual reality conference, held in the summer of 1991, the chairman, Tony Fieldman (noted in Menzies, 1996), pointed out that technology could manipulate reality to the point of being able to create it. Artificialization is no longer just a matter of cultural observation or intellectual angst, it had become, real. It had become "virtual reality".[2] It is for this reason that reality is no longer secure, no longer something we can simply assume to be there.

Good Or Evil Technology

Behind this new technology, there is a complex organization made up mostly of engineers, economists and accountants, executives and politicians. These are the manipulators of data and the inveterate supporters of progress through technology. They advocate scientific humanism, the ever greater knowledge, in order to manage environments and the affairs of society. However, artists, poets, novelists and philosophers have not often shared this enthusiasm.

The industrialization of production, which transforms scientific knowledge into technology, creates new environments and destroys old ones, speeds up the whole tempo of life, generates new forms of corporate power and class struggle, as we will see later. One standpoint towards the technologies is that they are morally neutral until we apply them; it's only when we use them for good or for evil that they become good or evil. Heather Menzies (1996) draws

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[2] Wooley (1992), points out that virtual reality is the technology used to provide a more intimate "interface" between humans and computer imagery. It is about simulating the full ensemble of sense data that make up "real" experience. Ideally, the user wears a device that substitutes the sense data coming from the natural world with that produced by a computer. computer screens are placed before the eyes, "effectors" cover the body, providing the sights of this artificial world, and the feelings that result from touching it. Furthermore, tracking devices attached to the body monitor its movements, so as the user moves, so what he or she sees and feels is altered accordingly.

attention to the other point, that is infrastructure, the sometimes forgotten backdrop to technological tools. Infrastructure can limit choices in how tools can be used, for instance, through pricing policies, access routines, and operating speeds or delays. It can also often determine what tools will become available in the first place and restrict freedom of choice to multiple choices, such as programs on cable television, provided by mass-distribution conglomerates. Values such as inclusive participation, built into the infrastructure over time, strongly influence the nature of economy and of society[3] . The bias in building the systems and infrasturctures for the new economy has largely favored the centralization of control into a few hands, as we shall see in the chapter that discuss economic issues.

Globalization

> The most worrying thing about the earth is that there seems to be no way of preventing it from becoming one world. If there is only one world, then if anything goes wrong, everything goes wrong
>
> (Kenneth E. Boulding, 1994)

New information technology, as we have discussed, addresses several issues. The first one is globalization, as a direct result of technological changes. Boundaries between time and space have been completely erased, so many human-driven processes of all kinds are becoming global in scale. In our present context, this has two meanings. The first is that of the global village brought about by worldwide electronic communications. Communication has been transformed into heavy industry, and this organized network of world communication allows an instantaneous, twenty-four-hour information world to function. How this global village functions, will be further explained in the following chapters. The second meaning of globalization, is that in the

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[3] Menzies (1996) points out an example that proves this:

> In the early years of telephony, inventors came up with a switching device that users could install in their telephone boxes to protect their privacy on multiuser or party lines. The device could have opened a path for greater user control of the phone; for instance, users could have arranged their own conference calls and even used the phone for quasi-broadcasting. But the telephone companies cut off this path by establishing a centralized system in which the telephone company controlled all the switching using individualized single-user lines. This was by far the more expensive technological choice, but it delivered on the values of centralized corporate control (including the possibilities for greater income through switching transactions), plus restrictive end-user participation.

developed worlds there seems no limit to our reach for resources, whether these be materials brought to us or places to which we can travel. The new technology has enhanced our ability to extract and transfer more energy available for production from the environment; this energy has led us toward growth, and increased consumption. Thus, the emergence of the global market economy is driven by the process that can be called "commercialization", the process which makes perpetual capital accumulation the primary objective.

However, since the Industrial Revolution began in the eighteenth century, qualitatively unique social problems, international political problems, and now an environmental crisis, have all suddenly emerged in rapid succession. Furthermore, they have now widened to include the entire globe. Instant informational access allows us to grasp that we are living in an interdependent, highly interactive world — virtually a single ecosystem, affected by processes of disturbance and transformation change from equilibrium to disequilibrium on many different spatial and temporal scales.

Illustration 46.
Choco Indians,
Panama.

Environmental Issues

A Global Crisis

Illustration 47.

A level of information access, achieved in the last few decades in postindustrial society, helped to increase our awareness of the consequences of growth, and of the fact that growth is limited by resources, sinks, and sources. Ecological catastrophes, have happened from time to time, but what is unique about the present era is the accelerating rate at which the human race has created ecological, and now, climatic change. One difference between our world and that of the past, is the scale at which human societies can affect the rest of the planet's biophysical systems. The state of the World in the 1990's: overpopulation, pollution, dwindling natural resources, the greenhouse effect, ozone depletion, species extinction and increasing famines and poverty, hardly suggests a tale of progress. Modern industrial food production is apparently less labor intensive and more productive; in fact,

Illustration 48. Lungs and trees.

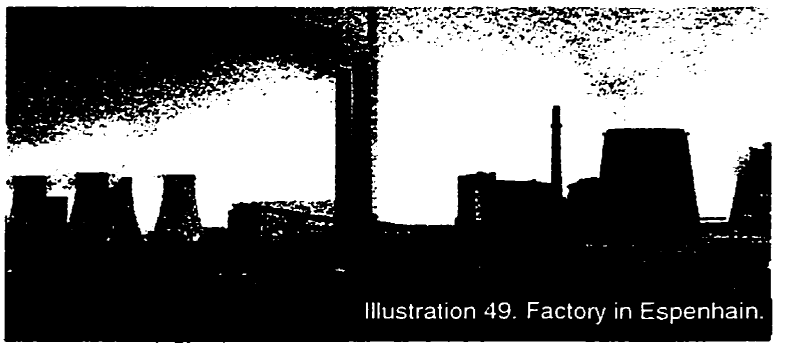


Illustration 49. Factory in Espenhain.

these systems are the least efficient ever devised. Bodley (1996) and Allen (1997) claim that these industrial food production systems remodel landscapes and cause erosion, pollution and other ecological problems, while nearly a billion people are hungry (see table 1 and 2). At the same time economic activity on the globe as measured by Gross World Product is growing at four percent a year[1].

For this reason, it seems that it is not all about "cause and effect" relationships. In our complex "lived world" (which is from the standpoint of our thesis, self-ordered as well), there are extreme amounts of linkages that we are finally becom-

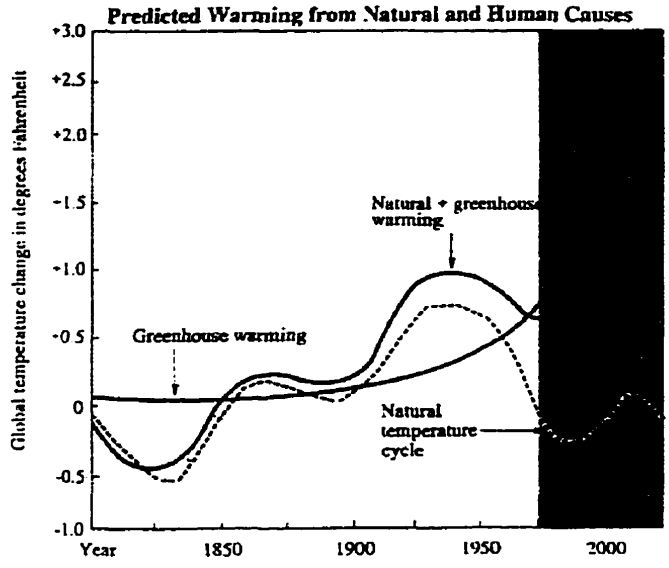


Illustration 50. and 51. Global warming.

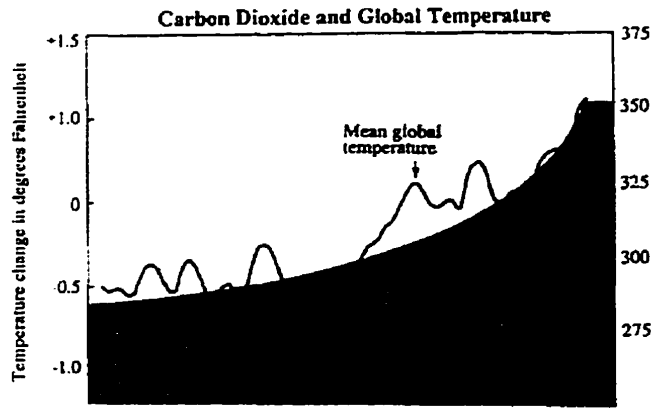
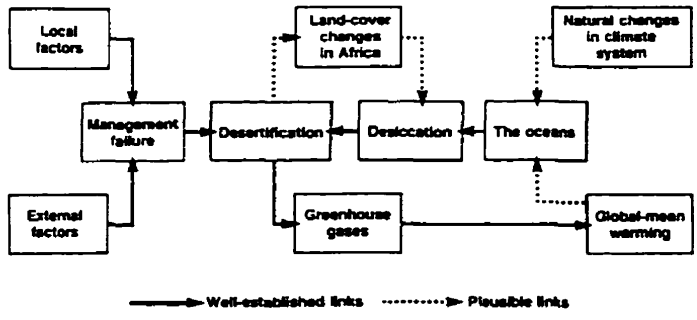


Table 1. The matrix of cause and effect surrounding desertification and the role of climate change.



[1] One factor driving this expansion, as Wackernagel and Rees (1962:1) points out, is the growth of the world's population:

> In 1950, there were 2.5 billion people, while today there are 5.8 billion. There may well be 10 billion people on Earth before the middle of the nest century. Even more ecologically significant is the rise in per capita energy and material consumption which, in the last 40 years, has soared faster than the human population.

ing aware of, linkages which distraction cause "unanticipated social and ecological/environmental consequences" of economic growth. In other words, our world shows signs that can be defined as "chaotic behavior" that we defined earlier as behavior of a system that refuse any notion of hierarchical structure and create "chaotic interconnections" and a state of unpredictability which generates a vast stream of information. The environment offers probably the most obvious example; it is a system that is most easiest to grasp, since we are able to directly observe it and feel the immediate consequences of such "chaotic behaviour."

Nature as a Source and as a Resource

In today's consumption economy, there is little consideration given to the unintended by-product: the process of constant economic growth. Waste, depletion, pollution, and various indirect social costs do not immediately detract from the gross national product and may actually be a positive aspect of it. For example, as Bodley points out (1996:66), accidents and diseases caused by the production and consumption process contribute to economic growth because further output of goods and services must deal with them. Adverse side effects of

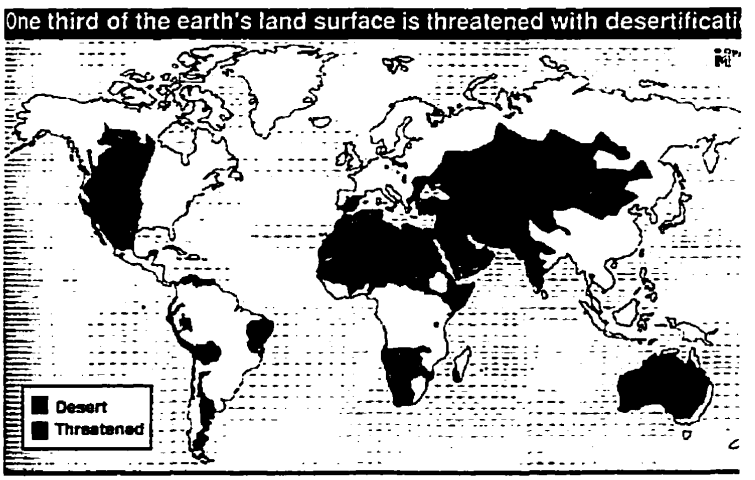


Illustration 52. Land desertification.

Table. 2
Land degradation.

Human-Induced Land Degradation Worldwide, 1945 to Present

Region	Over-grazing	Defores-tation	Agricultural Mismanagement (million hectares)	Other[1]	Total	Degraded Area Share of Tota Vegetated Lar (percent)
Asia	197	298	204	47	746	20
Africa	243	67	121	63	494	22
South America	68	100	64	12	244	14
Europe	50	84	64	22	220	23
North & Central America	38	18	91	11	158	8
Oceania	83	12	8	0	103	13
World	679	579	552	155	1,965	17

growth will be certain to make growth self-limiting in the long run, but because of the investment process, a consumption economy is focused only on the immediate future and disregards impacts even twenty-five to fifty years into the future. Therefore, nature appears today as a source and as a resource of energies — indispensable, vast, but not unlimited. It appears, more clearly than in Marx's time, as a source of use value. The earth, underground resources, the air and light above the ground — all are part of the forces of production and part of the products of those forces.

Bodley, as well as Relph, state that the tendency toward the destruction of nature, and our cultural/social environment does not flow solely from a brutal technology; it is also a result of the economic wish to impose the economic criteria of interchangeability upon places. Once again, it is a result of the wish to impose the economic order on the complexity of the lived world, and the result is that places are deprived of their specificity or even abolished.

Awareness and Sustainability

Since the early 1960s, numerous economists, environmentalists, sociologists and philosophers started to point out different issues. Economist Fritz Schumacher, sharply criticized over organized systems, as destructive of the human spirit and of the planet. He underlined the importance of human scale and the need for the humanization of work, as a form of self-fulfillment rather than a solution for the "problem of production." It was almost the same thing as "the bigness" that Jane Jacobs was telling us about repeatedly. Furthermore, other readings like: Carson's *Silent Spring, Limits to Growth* (Meadows et al.), or Hardin's *Tragedy of Commons* , offered us more insights, proofs and explanations about pollution, about the limits of our world with a growing population, and about how inevitably common resources were destroyed whenever exploited in such a way that the profits went to individuals while the costs were shared by all. Those readings forced us to be more aware that this interdependent and highly interactive world — virtually a single ecosystem, was affected by processes of disturbance and transformational

change from equilibrium to disequilibrium on many different spatial and temporal scales, and an idea of sustainability started to intrude at this point in almost every field of human activity. Broundtland Report of the World Commission on Environment and Development (WCED) in 1987, defined "sustainability" as "unanticipated social and ecological/environmental consequences of economic growth model". In its basic ecological sense, sustainability is actually the main property of the ecosystem, long known under other names such as persistence, where an ecosystem's separate properties and services are working in concert and not individually. The 1987 Broundtland Report of the World Commission on Environment and Development proclaimed that sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." In other words, the commission recognized that the conventional economic imperative to maximize economic production must now be constrained — by both: an ecological imperative to protect the exosphere and a social imperative to minimize human suffering, today and in the future. For the first time, environment and equity became explicit factors in the development equation. Sustainable development therefore depends both on reducing ecological destruction and on improving the material quality of life of the world's poor. Conceptually, sustainability is a simple concept: it means living in material comfort and peacefully with each other within the means of nature. However, sustainability for most people is sustainability of the economic activities regardless of how large they may grow, like a magic wand to wave away such conflicts in a single unifying goal. "It seems to say that no longer need industrial advance cause environmental degradation. We can have sustainable development instead; everyone can be both rich and green. Yet, the conflicts remain since environmental protection does mean constraints on economic activity.

Ecological Approach

As early as 1927, urbanist Lewis Mumford in a speech at the National Planning Conference urged planners to utilize an organic or ecological approach in their profession. The growing problems of urban America, Mumford felt, escalated when planners viewed cities as

machines designed for production rather than biological organisms capable of reproduction. Unless cities were designed according to natural constraints, Mumford warned, America's expanding urban centres would pass "the limits of functional size and use." In the past, when urban civilizations had exceeded natural limits, they collapsed; initial periods of excessive growth were followed by ecological deterioration, catastrophe, and the demise of civilization. The "necropolis," or dead city, was the ultimate fate of any society that promoted unlimited growth, and indeed examples of those were numerous throughout the history of cities. Nevertheless, the fact is that the megalopolis of today is still growing, although it has passed that limit of "functional size and use" in the notion of the traditional city. However, it has evolved into something quite different, and the old city, actually, is dead. "This will kill that" said Victor Hugo, and in this case, he was right.

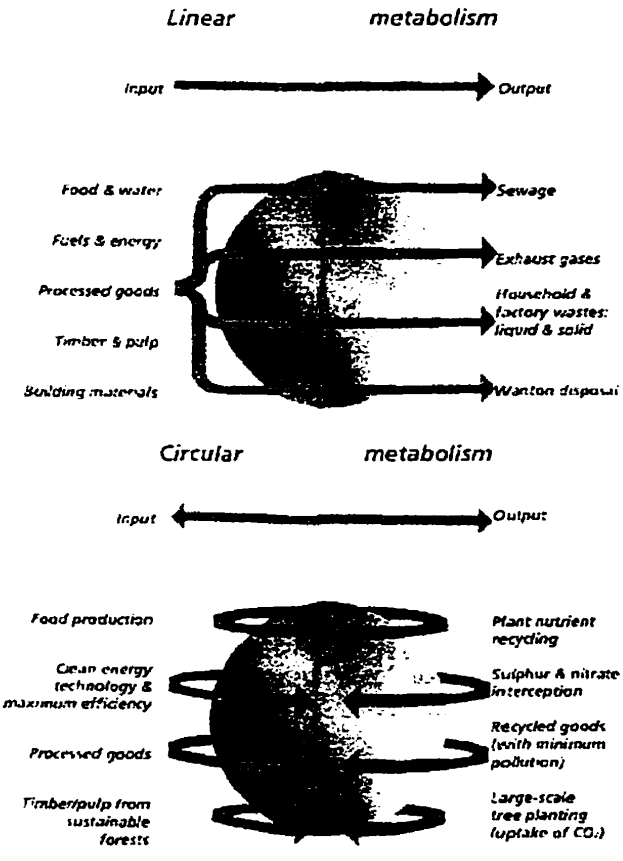


Illustration 53. City metabolism : linear and circular.

These new cities of today, as mentioned earlier, have become very dependent entities. Modern cities and whole countries survive on ecological goods and services appropriated from natural flows or acquired through commercial trade from all over the world. In other words, the ecosystems that actually support typical industrial regions lie far beyond their political or geographic boundaries. Polluted air and water, toxic soil, receding natural habitats contribute to the destruction of neighborhood and home. We threaten nature and nature now threatens us in return, sunlight causes cancer, air

threatens our lungs, rain burns the trees, streams are polluted and the soil is toxic. City centres were deteriorated while valuable farmland or irreplaceable natural assets on the fringe of the city are converted into residential areas, shopping centres or work places.

Worldwide, efforts are being made to move towards sustainability and bio-regionalism[2]. Cities' authorities become more aware of the potential of utilizing the resources on their own doorsteps. That means protection of the farmland, forest, and watersheds in their vicinity and giving resources back to the land thus creating a circular metabolism (see illustration 53) that ensures a sustainable local food supply. If we look at these trends in the light of our theory, we can see the same pattern of self-organization: sustainability, bioregionalism (see illustration 54 and 55) and many ecological developments can be observed again as the manner in which disorganized systems are forced (by the force within themselves — in this case: pollution, scarcity of resources, expensive fossil fuels and transport systems, etc.) to acquire organization.

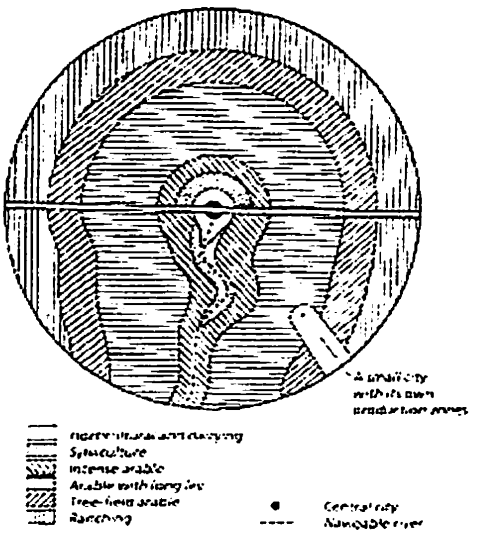


Illustration 54. Von Thunen's land use system.

Illustration 55. Wandiphondrang village, Bhutan.

[2] Ironically, the concept of "bioregionalism" is being revived in North America whose cities are least reliant on their own food production. Bioregionalism is not solely concerned with the food supply for cities form their hinterlands. The concept of "bioregionalism" has grown out of the realization that long -distance food trade could disappear as cheap fossil fuels, and transport systems that rely on them, become a thing of the past. Bioregionalists argue that cities have grown away from dependence on the surrounding landscape, as small farming settlements expand into trading and industrial centres.

Economic Issues

A Central Role of Economics

Economics plays a central role in shaping the activities of the lived world. It provides the norm of what is "economic" and what is uneconomic; as Schumacher (1989:44) indicates, this is the most influential set of criteria over the actions of individuals and groups including governments. There are few words as final and conclusive as the word "uneconomic." Therefore, it may be thought, that we should look to the economists for advice on how to overcome the dangers and difficulties in which the modern world finds itself, and how to achieve economic arrangements that would redeem peace and permanence. Economics has moved into the very centre of public concern, and economic performance, economic growth, economic expansion, and so forth, has become the abiding interest, if not the obsession, of all modern societies. No analysis of contemporary problems would be complete without considering the organization of wealth and power in the world.

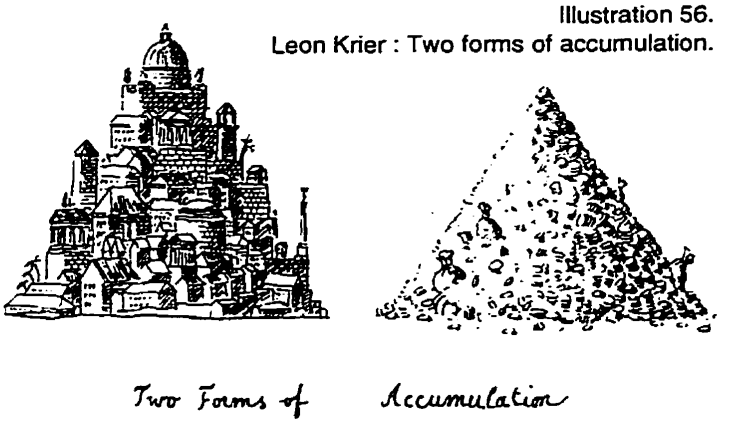


Illustration 56.
Leon Krier : Two forms of accumulation.

Commercial Economy

The entire world is now driven by a dominant process that can be called commercialization. The primary objective of this process is producing perpetual capital accumulation. Therefore, a commercial economy is a system defined by a continual increase

Illustration 57.
Market place, Dubrovnik, Croatia.

in "throughput" that is production and consumption measured by gross national product (GNP). Schumacher (1975:44) states that "something is uneconomic when it fails to earn and adequate profit in terms of money." Therefore, the method of economics does not, and can not, produce any other meaning.

> The judgment of economics, in other words, is an extremely fragmentary judgment; out of the larger number of aspects which in real life have to be seen and judged together before a decision can be taken, economics supplies only one — whether a thing yields a money profit to those who undertake it or not... The religion of economics has its own code of ethics, and the First Commandment is to behave "economically" — in any case: when you are producing, selling, or buying.
>
> (Schumacher, 1975:47)

As a result, it can be said that the economy is in a sense disembodied from the rest of the culture, symbolically becoming an autonomous entity whose growth is considered essential for human well being. Furthermore, the characteristics of that economy are extremely influential in all aspects of human life: socio-politic, cultural and environmental.

"Virtual" Economy

Thanks to technological change, the whole basis of the economy has been digitized. As Menzies (1996:21) points out, "the tools of computerized communication have not just become the new tools of production, but the new tools of distribution and consumption, learning and healing, research and knowledge decisions, and even governance". Now the economy itself is mov-

Illustration 58. Bombay and New York market. City markets have always been part of the hub of city life.

ing inside the "information highway", inside its network infrastructure (see illustration 58).

We have already mentioned that the main industry of today is information. This information is not "owned", or at least monopolized for long, and tends to multiply itself through use. While the industrial world is based on the notion of an endless repetition of a few products, its post-industrial successor, the information world, is based on the idea of short-runs, targeting many different products. The laws of the market, and technological infrastructure, that we mentioned earlier, dictated the removal of the archaic legal protections that allowed small business to survive, so mostly big business and corporate economy withstood technological and market changes. In global information networks and the management information systems they support, this corporate economy became free of time and space, free of geography and of history with all the traditional restrains, values, and social priorities. It became a digital "virtual" economy in cyberspace.

The Organization of Wealth and Power

New technologies, information, and other cultural products that affect the daily lives of billions of people are produced by corporate enterprises and controlled by a handful of people. The world's 5.6 billion people are now within a single commercial network ultimately dependent on computerized financial transactions taking place in a few organized markets in the richest countries. Bodley (1996:19) indicates that "Money, government and corporate bonds, shares in corporations, and contracts for the future sale of food, fiber, and other commodities, change hands daily, and vast quantities of raw materials and manufactured goods move physically between markets as investors seek commercial profit." The purpose of all this activity is to keep the global "economy" growing as measured by the steady accumulation of financial capital and increases in GNP. The curious thing about all of this is that it is directed and controlled by relatively few people. Individuals with no direct investments in the global economy are important

only as consumers of commercial goods and services. Sociologist Leslie Sklair (1991) observes that it is no longer very helpful to focus on the activities of nation states because the primary agents in the world system are all transnational: 1) the transnational corporation (TNCs); 2) the transnational capitalist class (TCC); and 3) the transnational mass media and advertising. Sklair identifies each of these agents with three analytical spheres of the global system: the economic, political, and cultural-ideological spheres, respectively (see table 3). Each agent is functionally distinguished by its particular set of transnational practices. The economic sphere is dominated by the TNCs and the special institutions that support them such as the World Bank, the International Monetary Fond, the United Nations, and the various stock markets and commodity exchanges. The transnational capitalist class is composed of the corporate managers, politicians, and other elite that make the system work. Their nationality is irrelevant. The absolute power of transnational corporations and the capitalist class is indicated by the astounding fact that the combined 1992 revenues and sales of just 750 of the world's largest companies represented 42 percent of the global GNP in 1991 (Fortune July 26, August 23, 1993, World Development Report 1993).

Table 3. **Transnational Agents in the Global System, According to Leslie Sklair (1991)**

SPHERES	PRIMARY AGENTS	TRANSNATIONAL PRACTICES (TNP)
Economic	Transnational Corporations (TNCs)	Commodities Production and Marketing Services Job Creation and Destruction
Political	Transnational Capitalist Class (TCC)	Political Support for marketing and International Trade
Cultural-Ideological	Transnational Mass Media and Advertising	Consumerism

In an exhaustive study of the American institutional elite in the early 1980s, Thomas R. Dye (noted at Bodley, 1996) found that just 5,778 individuals "ran" the giant corporations, the fed-

eral government, the news media, and the primary cultural institutions in the country as a whole. Making the global system work requires maintaining dominant influence, or cultural hegemony, over billions of people. In the global system the cultural hegemony function is most effectively carried out by the transnational mass media and advertising, which maintain consumerism as the dominant cultural value. Increasing consumption of commercial goods and services is presented as the cultural norm, the ultimate goal of life.

The Wealth of Nations and the Growth of the Cities

Jane Jacobs argues that the wealth of nations depends on economic life of cities and urban regions, that are "import replacing."[1] Those cities she calls " the engines of nations" growth. Growth in the local economy is possible because the growing export work earns more imports for the city. Economic development then can be defined as continual "improvisation," when three major changes are taking place, and all of them are noticeable in today's megalopolis. First, economic life becomes more urbanized and less rural. This allows more room for extraordinary growth of learning and the arts and sciences in the large local economies of big cities. Second, as city trade expands, it sparks additional cities into life, mainly in what had been supply regions, and draws them into volatile city trading networks. This is what we have described earlier as edge cities. Third, increased quantities and proportions of all goods and services being produced are imported into cities and become available there to the process of import replacing. The larger the stream of new exports, the more room it can produce in the city's local economy, for still further economic trial, error, development, and multiplying divisions of labor. Here we can see exactly the same thing as in a natural ecology: the more fully the various niches are filled in any particular ecosystem, the richer they are in means for supporting life.

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[1] This means as Jacobs (1984) indicates, that a broad enough base of infrastructure exists in the metropolitan region to enable entrepreneurs to establish new businesses to manufacture goods which were previously imported from other regions. Jane Jacobs was the first in 1969 to point out that first cities arose because of trade, rather than intensive farming according to prevailing theories. Her argument for regions resonates powerfully today where global linkages between regions are much more powerful than those among nations. It calls for creating globally competitive regions and city economies that nourish innovative, entrepreneurial, trade-oriented, versatile, diverse and improvisational activities.

That is another way of saying that complex economies producing diversely for their own people and producers, as well as for others, are better off than specialized economies. Like in a natural ecology, the more diversity there is, the more flexibility, too, because of what ecologists call its greater numbers of "homeostatic feedback loops," meaning that it includes greater numbers of feedback controls for automatic self-correction. It is the same with cities economies. Furthermore, an explanation for cities economic growth cannot be found only by their given resources or given locations. Their existence as cities and the sources of their growth lie within themselves, in the processes and growth systems that go on within them[2]. Therefore, a city's economic development, as Jane Jacobs proves, is a do-it-yourself process; for any economy it is either do it yourself or don't develop.

The Stagnation of the City

As economy diversifies, it retains its vitality. When that process stops, the economy stagnates. Stagnant economies are those simplified, without diversity, and a good example for those economies can be found in urban regions in Third World countries. In rich countries there exists competitive individualism, constant economic growth, with enormous per capita energy demands, while in the Third world past imperialism suppressed development, often destroyed or disrupted indigenous societies and their former relations with their environments, creating a dependency relationship with the developed world. Jacobs (1993) points out that economic exploitation of their resources and cheap labor by the First world countries, is often backed up by military interventions. Very often they are trying to "develop" agrarian societies though infusion of technologies financed though indebtedness which although productive in some countries, in others creates catastrophic results. For example, as Jacobs (1993:92) indicaties, Africa produces 50% less food than 10 years ago, while population grows at the fastest rate in the world. At the same time, people displaced by the Green Revolution crowd into cities whose own poor and stagnant economics have little to offer. Economies of urban regions in those countries are inher-

[2] Jacobs (1984:141) proves that "Many cities engaging in enormous trade occupy notably inferior trading sites. Tokyo and Los Angeles are examples"

ently overspecialized and wildly unbalanced. Rich or poor, due to overspecialization, they are unresilient and fragile, helpless when they lose their fragments of distant markets.

Societies and civilizations in which cities stagnate, do not develop and flourish further. They deteriorate. So far, going back and back in history, it seems never to have been a simultaneous deadening of cities over the entire world[3]. However, we mentioned before that our reality is becoming one "instantaneous twenty-four hour informational world', and that this world is becoming increasingly urban. According to the World commission on Environment and Development (1985), approximately half of humankind will be living in towns and cities, many among them in megacities by the year 2001. The future is always hard to predict; however, we can speculate about it. And Jacobs speculates on her "nightmare":

> But suppose, hypothetically, that the worlds were to behave like a single sluggish empire in decline. Such a thing could happen if cities in too many places stagnated simultaneously or in quick succession. Or it could happen if the world were to become in fact. one single sluggish empire. If global city stagnation ever does occur, it will inexorably cause economic life everywhere to stagnate and deteriorate, and there will be no way out; no existing vigorous cities to intervene, no young cites arising while they still have opportunity to do so. Everywhere all would become morosos, those without hope. We all have our nightmares about the future of economic life. That one is mine.
>
> (Jacobs, 1969:134)

Bigness

Bigness means power, as long as it is combined with vitality. Big units make big mistakes with big consequences. Small things make mistakes and fail too, but in the sum of things these are more easily absorbed and can be written off.

> If all the seas were one sea,
> What a great sea that would be.
> If all the trees were one tree,
> What a great tree that would be.
> If all the axes were one ax,
> What a great ax that would be.
> if all the men were one man,
> What a great man that would be;
> And if the great man took the great ax
> And cut down the great tree
> And it fell into the great sea,
> What a splish-splash that would be.
>
> An old English nursery rhyme. Iona and Peter Opie (eds). Oxford Dictionary of Nursery Rhymes. Oxford; Clarendon Press, 1952

The City As A Fixed Capital

The city and its establishments like transportation systems, storehouses, post offices etc., are fixed capital. The division of labour affects the whole of space — not just the "space of "work" or factory floor. The whole of space is an object of productive consumption, just like factory buildings and plant, machinery, raw materials, and labour power itself. Therefore, urban space insures and coordinates that links are properly maintained between the various flows involved; flows of energy and labour, of commodities and capital. Capital represents itself in the form of a physical landscape that is the result of activities by big business. Relph (1981) argues that uniformity of landscapes and suburbs are created by the products and reflect the demands dictated by such business even when they have not even been constructed directly by them. The retail outlets of companies assume similar characteristics everywhere - Shell, Esso, Holiday Inns, Coca Cola advertisements, and all the other visual forms of international business. Uniformity means lack of complexity - the elementary characteristic of life. As a result, place becomes placelessness.

Economics as a Complete Way of Life

Both large corporations and governments are operating and perpetuating an economic and industrial system, and whether we consider this to be a controlled and manipulated thing or a more or less self-regulating market, there is no question that it pervades all aspects of modern life. Economics is not just a matter of production, distribution, and consumption, but a complete way of life that even takes on the character of a religion with regular financial reports on national television news. Jasques Ellul (1967:219) has written: "Economic technique does not encounter man in textbooks but in the flesh. The human being is changing slowly under the pressure of the economic milieu; he is in the process of becoming the uncomplicated being, one whose needs are collectivized by publicity, by standardization of goods and by intellectual uniformity."

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[3] "While Addis Ababa was dying, Rome was rising. While the great cities of China were stagnating, Venice was rising. No doubt in the future people will remark that while the cities of Great Britain were dying those of Japan were rising." (Jacobs, 1969)

Political Issues

> What exactly were the great cathedrals? The answer is that they were political acts. The ancient function of statues was to immortalize the dead so that they would not harm the living.
>
> (Lefebre, 1991:74)

Perpetual economic growth is attached to the consumption economy and has become the way to both produce and sustain a political and social system. The end of small business was as integral an event for late capitalism as for certain forms of state socialism. Manfredo Tafuri (1976) argues that the purpose for destroying traditional societies, is to sweep the globe clean for the manipulations of the great corporations. While big business has replaced small businesses, in the last two hundred years, centralized government has replaced local initiative. It functions very much as a big business especially in areas such as public housing and resource management. With considerable control over economic expansion and physical planning, the capacity of the state and the lower levels of government, for place-making or place destruction, is immense. Central authority undertakes to act for the whole of its territory in specified matters[1]. This produces as Relph (1976:115) notices (see illustration59), uniformity in cultural influence even where the natural landscape is diverse, exactly in a way that over a century ago Alexis de Tocqueville (noted by Relph, 1976) had predicted. He believed that "democracy would lead to a centralization of power and every central government worships uniformity; uniformity relieves it from inquiry into an infinity of details, which must be attended to if rules have to be adapted to different men, instead of indiscriminately subjecting all men to the same rule..." Although uniformity and placelessness could be considered as "inevitable consequences of democracy" (Relph, 1976), it must also be recognized that the state is as subservient as all other parts of modern society to technique, and the economic-industrial system.

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[1] In the course of its successive enlargements, during the reorganization of traditional agriculture into industrial production, a Western system of private property in real estate displaces the various systems of land tenure. Similarly, the older forms of land tenure in the more recent socialist forms, equally varied from country to country, gave over stewardship portions of the soil to the collectivity to govern.

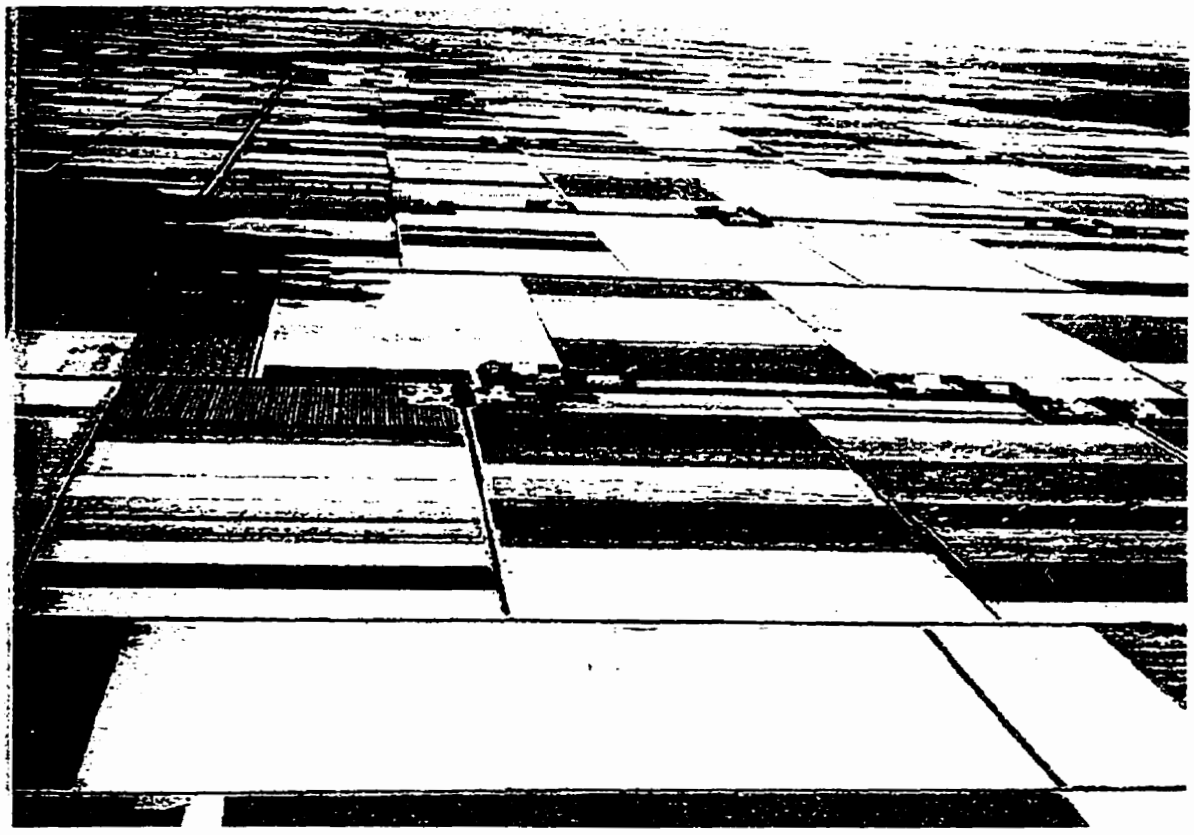

Illustration 59. Uniform landscape.

Hegemony

Few people today would reject the idea that capital and capitalism "influence" practical matters relating to space, from the construction of buildings to the distribution of investments and the worldwide division of labour. But it is not so clear what is meant exactly by "capitalism" and "influence"[2]. As Lefebre points out, many people are inclined to forget that capitalism has yet another aspect, which is the hegemony of one class.

> Hegemony implies more than an influence, more even that the permanent use of repressive violence. It is exercised over society as a whole, culture and knowledge included, and generally via human mediation: policies, political leaders, parties, as also a good many intellectuals and experts. It is exercised, therefore, over both institutions and ideas. The ruling class seeks to maintain its hegemony by all available means, and knowledge is one such means.
>
> (Lefebre, 1991:10)

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2 "It can be concern of "money" and its powers of intervention, or commercial exchange, the commodity and its generalization, and the fact that "everything" can be bought and sold. The other concern could be with the actors: companies national and multinational, banks, financiers, government agencies, and so on. "

(Lefebre, 1991:10)

Hegemony can not leave space untouched; it makes use of it with the help of knowledge and technical expertise of a "system". Mensies (1996) indicates that in the same way as the postindustrial "virtual" corporations conduct their business all over the country, the continents, and even the globe, inside the infrastructures of the information network and beyond the reach of democratic voters, the political power in a country, that has reached a high level of industrialization, does not need the army and the police to control[3]. Therefore, today a country belongs to the person who controls communications.

> When economic power passes from the hands of those who control the means of production to those who not only control information media but can also control the means of production, then,. . . every citizen of the world becomes a member of a new proletariat. Even if the communications media, as means of production, were to change masters, the situation of subjection would not change. We can legitimately suspect that the communications media would be alienation even if they belonged to the community.
>
> (Umberto Eco, 1986:135)

"Myth of the Rising Standard of Living"

Disruptive dissatisfaction among the lowest classes due to poverty and unemployment can be prevented without the wealthy sacrificing their positions if the total volume of wealth can be steadily increased, or if people can believe that they have the possibility of improving their material condition. In this way the poor gradually become "wealthy", while their relative position remains constant or declines. The same principle operates between countries at the global level. "Poor" nations might be prevented from warring against rich nations if the possibility of certain minimal levels of economic growth can be maintained. Social science theorist Immanuel Wallerstein (1990) calls this the "myth of the rising standard of living", because it masks the realities of poverty and unequal economic relationships between rich and poor countries.

However, in developing and in developed countries, there is a growing number of poor

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[3] The day after the fall of Khrushchev, the editors of Pravda, Izvestia, the heads of the radio and television were replaced: the army wasn't called out.

and homeless people. In New York, for example, they inhabit parks and streets while hundreds of habitable buildings stand empty, awaiting the best market opportunity to be reopened. This "bodily displacement" Olalquiaga (1992:18) believes is even more violent than a war, because homelessness is a condition of slow deterioration.

Attitude

What follows is that the characteristic of our present attitude is a loss of authority, the decline in belief systems and the rise of skepticism; the credibility of politicians, professional leaders and elites is threatened. Awe and respect have become unfashionable in our confused postmodern society. The most encompassing trend is not so much away from belief as towards an increasing plurality of beliefs. Never has consensus been so hard to achieve on a political and professional level. Although present anti-institutionalism can be identified as antisocialist, a more fundamental object at which it is directed is corporate capitalism itself, with its invented hierarchies and simulated psychology.

In Jameson's words, "a mild paranoia" is a characteristic post-industrial feeling, a consequence of superabundant choice and widespread pluralism. With no recognized authority and centre of power many professional groups, and even whole countries, feel victimized by a world culture and marketplace that jumps sporadically, in different directions. As a result, a characteristic of ournew city is its obsession with "security," with rising levels of manipulation and surveillance, both technological and physical, over its citizens and with a proliferation of new modes of segregation. An exaggerated example of such manipulation is portrayed in the recent movie *The Game,* by David Fincher, where "the organization" immerses you through a high tech surveillance system in a world where reality and illusion quickly get out of hand.

Marginalization

Riots are the language of the unheard.
Martin Luther King

Illustration 60. Youth gangs.

Violent crime, political terrorism, assassinations, riots, and various other forms of social disorder have become a more present part of the world's scene, and particularly so in the United States of America. To discover the underlying causes of violence, the US Commission on the Causes and Prevention of Violence was formed in 1968. The commissioners recognized that merely increasing the efficiency of law enforcement was not sufficient if the underlying causes of violence were not corrected[4]. In their view, violence was a sickness, a social pathology. They specifically listed poverty, poor housing and unemployment among the most important factors in an interrelated combination of "powerful criminogenic forces" present in urban slums. The general conclusion was that the urban poor were trapped in a situation from which they could not easily escape because of their inability to earn adequate income. This led to frustration and violence because the dominant culture mea-

[4] Bodley (1996:169) provides information that the law enforcement approach to the problem has produced a fourfold increase in American prison population between 1970 and 1992 and a tripling of the incarceration rate, from 96.7 per 100,000 in 1970 to 330,2 in 1992. In comparison, in 1990 Norway imprisoned its people at 72.8 per 100,000.

sured success by material wealth. The commission argued that economic progress brought rapid social change, and greatly increased wealth for some persons while denying it to others. At the same time, as Bodley (1996:169) indicates, it weakened traditional mechanisms of social control and led to frustration due to inequities in wealth distribution. Eames & Goode (1973) point out that cross-cultural research reveals a common pattern of noncriminal behavioral coping responses to material deprivation throughout the underdeveloped world and in urban slums in developed nations that is strikingly similar to the behavior patterns of the urban poor in early industrial England.

Poverty behavior, indeed, presents a consistent picture, but it is because people are adapting to the same problems — not because they are locked in their own self-replicating culture of poverty. The same thing can be said for political terrorism, assassinations, riots etc. The scale in these cases could be different, but the causes are again unequal economic relationships between rich and poor. In that way, this anarchy can be viewed once again - as "unanticipated consequences of economic growth", as we observed in economy or in the environment. Therefore, anarchy can also be like all these "unanticipated consequences", just a part of chaotic behavior of "disorganized system that spontaneously acquire organization".

Illustration 61. The "Undesirables".

Social Issues

> No society has ever been so standardized as this one, and the stream of human, social, and historical temporality has never flowed quite so homogeneously.
>
> (Jameson, 1994:17)

The Work Force

In general, it appears that the abstraction of economic theory has become the guidelines for the way in which society and landscape should develop and be organized. The distribution of the work force in society is fundamentally shifting in the move from the industrial to the post-industrial economy. Girardet (1993) indicates that very little of the population today are farmers; in the industrial world of 1900 they constituted 30 percent of the labor force, while in the post-industrial world they constitute only 3 percent. The fundamental social fact is the sudden growth of those who create and pass on information; their emergence looked like a new class — the "new proletariat[1]". More work has been standardized, with prescriptive procedures replacing holistic involvement. While people were generally central in the industrial period, today's "intelligent" communications networks systems require fewer people, and less of their intelligence and involvement [2]. Therefore, human management and administration has been replacemed with systems software, bringing more and more work under the control of machines rather than peo-

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[1] Jencks (1989) points out that statistically most of them are clerks, secretaries, insurance people, stockbrokers, teachers, managers, governmental bureaucrats, lawyers, writers, bankers, technicians, programmers and accountants.

[2] The evidence of various case studies from the 1980s and early 1990s, documents the links between technological restructuring and the drastic realignment of employment. These trends according to Menzies (1996:30) are:

- the collapse of work itself: through closures, layoffs (sometimes attributed to recessionary economic times), and job vacancies going unfilled;
- underemployment: full-time jobs have been re-engineered into part-time or contract jobs;
- jobless growth: caused by either dramatically increased output or throughput with automated systems, or the creation of new goods or services that can be both produced and delivered by software or automated systems;
- deskilling : although computerization has increased the need for some highly skilled, highly specialized people, in the majority of cases it has had the opposite effect. In some cases, it has sucked our people's knowledge, skill, and judgment, substituting software and "expert" systems;
- computer-monitoring: often discussed as a human-rights issue and is also indicate a new cybernetics of labour. That is a realm in which labour-management relations are entirely defined by the computer, and of course raises fundamental questions of human identity and social justice.
- credentialism: the shift from experience-based knowledge and on-the-job learning to task-based and technology-specific knowledge.

ple. The system software controls and defines the work to be done, while people are reduced to being functionaries of the system.

This hollowing out of the middle ranks of managers, administrators, and professionals, has severely reduced the middle class. Technological restructuring, thus, goes far beyond job numbers and employment as such, becoming a political and even cultural issue.

The "Technological Dynamo"

More and more people are being driven, faster and faster, by the "technological dynamo", that is, the metaphorical equivalent of a central steam engine driving everything else. McLuhan in 1960s warned about the business executive becoming the "servo-mechanism", closed into the "scheduled extension of this existence and compelled to serve that regime". Today, Menzies (1996) warns, the technological watch is embedded in our lives; computerized software aids have removed the simple tasks through which people normally paced themselves with waiting time, leaving them instead in a state of non-stop peak performance, with scarcely a moment unbooked . Other technologies such as voice mail, fax, and e-mail, cell phones, pagers, compress time. A policy analyst described them as "wild horses." "You think you're driving all these gadgets, but they're driving you". "This watch," Menzies comments, "is no longer strapped to our wrists — we are metaphorically strapped to it."

Alienation

The information world has not decreased the amount of work, but actually increased it, because information tends to multiply itself through use, creating ever bigger circles of decision-making.

Since technological innovations are used to increase productivity, not efficiency or leisure time, not surprisingly it turns out that many high-level managers are just as alienated as the rest of the labour force. They have to process much more information per minute, per day, than the exploited wage-slave did one hundred years ago, and they do it for the most abstract client of all,

the one most distanced from them, that is the world market, as Bodley (1996) indicates. Knowing their profits, it may be hard to feel sorry for them, but alienation is alienation even when it is self-induced and well paid. Sooner or later, the cultivated elites find themselves in the same situation as peoples dispossessed (alienated) through conquest and colonization.

"Commodity" as a New Ideology

In all industrial countries, there is the firm commitment to the consumer economy, to consumer goods and services, as the primary source of human satisfaction and enjoyment and as the most visible measure of social achievement. "The ideology of consumerism proclaims," Sklair (1991:41) points out, "that the meaning of life is to be found in the things that we posses. To consume, therefore, is to be fully alive, and to remain fully alive we must continuously consume". As culture, leisure, sex, politics, and even death turns into commodities, consumption increasingly constructs the way we see the world. With regard to the marketplace, in an "overdeveloped" society, the commodity becomes its own ideology. In the words of Fredric Jameson (1985:77), "the immanent practices of daily life now occupy the functional position of "ideology.'" In fact, this climate has been justified under the platform of democratic pluralism that emerged as the dominant ideology of twentieth century America and Europe from the mid-1960s onwards. Not only has this process continued, but it has expanded in scope thanks to the intensification of global flows of capital, labor, products, media, ideas, and people.

Conception of change

> If absolute change in our society is best represented by the rapid turnover in storefronts, prompting the philosophical question as to what has really changed when video stores are replaced by T-shirt shops . . ., then it is crucial to distinguish between rhythm of change inherent to the system and programmed by it, and a change that replaces one entire system by another one altogether. . . The experience and the value of perpetual change thereby comes to govern language and feelings, fully as much as the buildings and the garments of this particular society"
>
> (Jameson, 1994:16-17).

In today's society, the shifts are kaleidoscopic and simultaneous — from mass-pro-

duction to segmented production; from a relatively integrated mass-culture to many fragmented taste cultures; from centralized control in government and business to peripheral decision-making; from repetitive manufacture of identical objects to the fast-changing manufacture of varying objects; from few styles to many genres; from national to global consciousness and at the same time, local identification.

Nothing seems permanent, exacerbating the longing for stability and permanence. The result, according to Girling (1994), is that "space is not real, only time." What we now begin to feel, where everything submits to the perpetual change of fashion and media image, is that nothing can change any longer. This is the sense of the revival of that "end of History", which for Alexandre Kojeve (cited by Jameson, 1995) has the meaning of "ultimate achievement of democratic equality in both American capitalism and Soviet communism, only later identifying a significant variant of it, in what he called japanese "*snobisme*", but that we can today identify as postmodernity itself, "the free play of masks and roles without content or substance."

A New Humanity and a New Space

However, the fundamental shift in mood that the post-industrial world has brought, is a new taste for variety, even incongruity and paradox. Jameson (1995) observes that "Perhaps the biggest shift, is the new attitude of openness. It's not just a taste for heterogeneity which has brought this about, but also a new assertion of minority rights, of "otherness." A number of explanations can be advanced to account for this discrepancy. Relph (1981:14) offers possibility that perhaps we, who live today, are an illustration of the remarkable human ability to adapt to any situation, no matter how bad. Professor Marshall McLuhan (1964) believes that, when the mass media triumphs, the Gutenbergian human being dies, and a new man is born, accustomed to perceive the world in another way. "We don't know if this man will be better or worse, but we know he is new." Where the apocalyptic saw the end of the world, McLuhan sees the beginning of a new phase of history. Perhaps that is again part of the evolutionary process in which self-organization, selection and historical accident find their natural place with one another.

Cultural Issues

> Once upon a time there were the mass media, and they were wicked, of course, and there was a guilty party. Then there were the virtuous voices that accused the criminals. And Art (oh, what luck!) offered alternatives, for those who were not prisoners of the mass media. Well, it's all over. We have to start again from the beginning asking one another what's going on.
>
> (Umberto Eco, 1986:150)

The secondary reality, mass media[1], made possible by television, provides "the synthetic social glue of consumer society" such that the "crisis of television begins when you stop watching it" (Ellin, 1996). Diffused to homes around the world, maintaining the commercialist, bourgeois status quo, television has contributed enormously to the globalization of ideas, having an impact on attention spans, aesthetic preferences, and creating a "community of consumption" (see illustration 62).

Illustration 62. "Consumerism."

As technological development grew, so did the fear of its consequences, producing contradictory notions of progress and degeneration, belief in the future and anxiety over self-destruction.

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[1] In the mass media, the important thing is not invention, but technical execution, which can be imitated and perfected. The mass media are genealogical, and they have no memory. The mass media are genealogical because, in them, every new invention sets off a chain reaction of inventions, produces a sort of common language. They have no memory because, when the chain of imitations has been produced, no one can remember who started it, and the head of the clan is confused with the latest great grandson. Furthermore, the media learn; and thus the ancestor, less complex and plausible, seems to be the imitator.

(Eco, 19861:46)

The ability to decompose and reconstruct the human organism, to reach faraway planets, and to destroy entire cities produced mixed feelings that undetermined the constitution of a cultural identity based on the notion of scientific pragmatism. "A reflective and passionless age", wrote Kierkeguard in *The Present Age* (1962:51) , "it leaves everything standing but cunningly empties it of significance". In other words — problems are recognized, defined, analyzed and resolved. The dominant mode of thinking is rationalism, and there is no opinion, no habit, nothing that is so firmly rooted or so widely believed that it cannot be questioned and judged by reason. Oakeshott (1962) indicates that the origins of this rationalism may lie in the Renaissance, but it now has a different form, since it is not a humanistic conception of man in his world but a skeptical approach based on facts rather than thought — procedure that allows a dispassionate and objective assessment of matters[2].

Therefore, as Relph (1981) notices, whether in advertising, packaging, or the product itself, there is very little that companies involved in mass production leave to chance. Everything is carefully designed to aid in the selling of the product (see illustration 63), and this involves both a response to mass culture and

Illustration 63. Advertisements.

[2] Commitment limits options by removing the possibility of finding new, different, perhaps better, courses of action, while careful control allows the selection between the various options to be made in a well-considered manner. Relph (1981:125) believes that the manifestation of this control can be found in behavioral psychology, in politic, in business, in urban, and regional planning, in recipe books and analyses of sexual behaviour. In all these cases knowledge is technical; it has been reduced to sets or principles, directions and rules. The means for success are made explicit and skill and wisdom are replaced by mechanical procedures and expertise.

an attempt to maintain and create such a culture by dictating uniform tastes and fashions. With a relatively small number of international cartels operating on a larger scale it is clear that the only possible consequence is a growing standardization of the world, at all points: production, administration and consumption.

Kitsch[3]

> Kitsch causes two tears to flow in quick succession. The first tear says: How nice to see children running on the grass! the second tear says: How nice to be moved, together with all mankind, by children running on the grass! It is the second tear that makes kitsch kitsch.
>
> (Milan Kundera,1984 cited by Ellin, 1996)

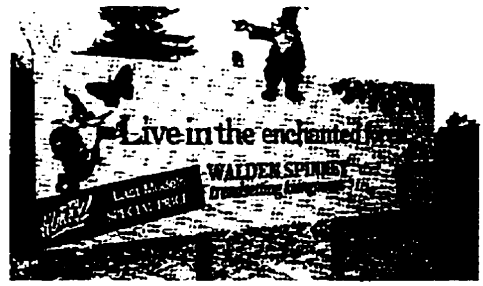

Illustration 64. A billboard for suburban townhouse development at Walden Spinneyu, Mississauga, Ontario.

The process of communication is fundamentally linked to the experience of kitsch and of violence in advertisement. Its rhetoric is used not to please or gain knowledge, but rather to shorten a message and send it home by tapping our image of the world. Advertisement is by nature aggressive for when it shocks us, it leaves us with a feeling of having been cheated. It fails to touch us and we are left embarrassed since we have been trivialized.

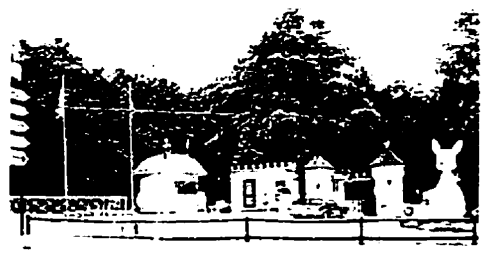

Illustration 65. Disneyfication: Champlain Storyland, Ontario.

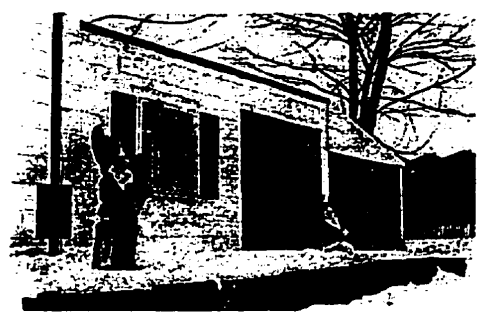

Illustration 66.

[3] Strictly the term kitsch refers to the mediocre, styleless, sweetly sentimental, meretricious objects that are sold as souvenirs and gifts, and to their related forms in household goods, music, architecture, and literature. But there is a distinct kitsch style and kitsch attitude that stands behind these goods. Abraham Moles (noted by Relph, 1976: 82) has identified the main features of this attitude; he suggests that kitsch is a way of being a major part of everyday life in all affluent societies where many people can afford the trivial, the showy, and the ersatz, but present in all societies to some extent. It consists especially of a relationship between man and objects in which the objects are created and produced solely for consumption by a mass public. It is an attitude reflected in gemütlichkeit, quaintness, cuteness, artificiality, and it results in mediocrity and "phoniness", rather than excellence and honesty.

Beside advertisements, kitsch is very present almost everywhere in our society. For example, as Relph points out, the meaning of "home" has become a marketable and exchangeable through increased mobility but also by sentimentalisation and commercialization (see illustrations 64, 65 and 66). "Tourism" has become travel for social ends rather than experience[4], while architecture such as disneyfication, museumisation and futurisation is directed towards outsiders, spectators, passers-by, and above all consumers. Architecture is business as well as culture[5], and as architecture has become increasingly concerned with image and entertaining, so the general public has become more interested in architecture. Brown declared that "it is not only that Disney has come closer to the mainstream of architecture — it is also that the mainstream of architecture has become more like Disney. . ."

> Exotic decoration, gaudy colours, grotesque adornments, and the indiscriminate borrowing of styles and names from the most popular places of the world, synthetic places made up of a surrealistic combination of history, myth, reality an fantasy that have little relationship with particular geographical setting.
>
> (Relph, 1981:95)

Media culture

The immediacy of events and the sensationalism of the spectacle whether political, scientific, military or entertainment, becomes the stuff that shapes viewers consciousness. As a result, there has emerged a media culture that is preoccupied with as Harvey (1989:102) points out "the signifier rather than the signified, with the medium rather than the message, with fiction rather than function, and with aesthetics rather than ethics." Characteristics of the media culture are an attachment to surfaces and collage instead in-depth work. Social theorist Stjepan

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[4] In a similar way the motorized campers of North America and Europe, with their multiroomed tents and trailers equipped with television, showers and even built in campfires, and traveling from one standardized campsite to another, are in effect making tourism itself unnecessary, for they are taking with them a part of their 'home

[5] Jameson observes (1995:193) that the seam architecture shares with economics have no parallel in the other arts, although commercial art, as rock music for example, come close in certain ways, but even that analogy serves to underscore the differences. The commercialization of architecture is perhaps best epitomized by the Walt Disney commissioning of twenty well-known architects. According to Patricia Leigh Brown, Disney "cannily figured out that architecture itself was undergoing a vast change in the last decade, a change that could dovetail perfectly with Disney's corporate needs".

Mestrovic (1992:3-4) develops this theme saying that "the mixing and borrowing of diverse themes from scattered contexts ensures that no one can ever distinguish fully the sinister from the benign themes. In responding to the popular media, we laugh at the same theme that we are filled with horror . . . The threat of the apocalypse is converted into entertainment."

Thus, media culture tends to mask disturbing facts of life, through humor, and through irony. However, the later does not quite seem to work, as Eco notices, since irony itself was traditionally a weapon of those upper classes from which we were supposed to escape. Another "tool" for masking the disruptive facts of life are through shallow optimistic messages such as Bobby McFerrin's popular song that constantly repeats "Don't worry; be happy." Thus, as Mestrovic (1992:3) notices, "audiences are exposed routinely to apocalyptic themes that are camouflaged in "fun" images, so that they are nor permitted to feel indignation, outrage, real concern, nor even a desire to act."

Pluralism and eclecticism

Nevertheless, our world that has been united by current technologies into an instantaneous twenty-four-hour informational realm created the increasing pluralism. The fact that almost all cultures are now within instant communication with each other, allows the transformation of the past and recent modern present, thus creating the age of quotation marks, the "so-called" this and "Neo" that. Plurality of beliefs is the prevailing attitude of post-industrial and probably most obvious in art and especially in architecture[6]. There, it raises eclecticism as the natural style for cultural diversity. However, the postmodern sensibility recognizes how dull life would be if it all took place in the world village. This appreciation of difference explains interest

[6] Where you could be a Goth or Classicist, or perhaps belong to the middle Alliance Party of its time — the Queen Anne Revivalists — you can now be a Rationalist, or Romantic Pragmatist, practice High-Tech or Free-Style Classicism, belong to the High Church of Real Architecture" (Revivalist Classicism) or pull all of it to pieces in the Deconstructionist School. You can be a Derridean Architect, and Organicist, historicist, Contextualist, Regionalist, or if bored with the 'ists', practice Post-Holocaust Design on expensive restaurants in Tokyo and Los Angeles. "It's true," Davidson (1995) believes, "that most of these approaches can be grouped loosely under either the Late- or Post-Modern umbrellas, but their proliferation does show the basic shift towards pluralism."

for the past seen with irony or displacement. It's the realization that we can return to a previous era and technology at the price of finding it slightly different.

Postmodernism

As a result, postmodernism[7] as a cultural phenomenon is often hard to grasp. Whereas pre-modern and modern works aspired to unity, postmodern modes of cultural promotion have abandoned the search for unity. "Instead of a single center, there is pastiche, cultural recombination . . . Modernism tore up unity and postmodernism has been enjoying the shreds" (Girling, 1994). While modernism was "a series of declarations of faith", Girling says, postmodernism "is an art of erosion." Ellin (1996:118) states that there is no distinction between past, present, and future. The lack of permanence also clarifies other dubious distinctions such as those "between fact and fiction and between scientific evidence and fantasy."

Recipient of the 1991 Pritzker Prize, Robert Venturi is widely regarded as the "father" of postmodern architecture[8] and urban design in both the United States and Western Europe. He made his initial mark in 1966 with the " gentle manifest" *Complexity and Contradiction in Architecture*, in which he proclaims:

I am for messy vitality over obvious unity... I like elements that are hybrid rather than

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[7] Charles Jencks stated (1987), that the concept of Post-Modernism was apparently first used by the Spanish writer Federico De Onis in his *Antologia de la poesia espaniola e hispanoamericana*, 1934, to describe a reaction from within modernism, and then by Arnold Toynbee in his A Study of History written in 1938, but published after the war in 1947. For Toynbee the term was an encompassing category describing the new historical cycle which started in 1875 with the end of western dominance, the decline of individualism, capitals and Christianity, and the rise to power of Non-Western cultures. In addition it referred to a pluralism and world culture, meanings which are still essential to its definition today. Virtually the first time the prefix "post" with today's meaning, as Jencks indicates, was used by the writer Leslie Fiedler in 1965. It was tied to current radical trends which made up the counter culture: "post-humanist, postmale, post-white, post-heroic...post-Jewish". John Barth (1995) and Umberto Eco (1986) , among many other authors, now define it as a writing which may use traditional forms in ironic or displaced ways to treat perennial themes.

[8] The term postmodern was first applied to architecture by Joseph Hudnut in the title of a 1945 article; it was Charles Jencks who began popularizing it in 1975. Jencks (1987 defined postmodernism in architecture as "double coding" — the combination of modern technique with something else, usually traditional building, so architecture can communicate with the public and a concerned minority, usually of other architects". He described characteristics of postmodern architecture as multivalence, pluralism, dissonant beauty, anthropomorphism, and a return to the absent center.

> "pure", compromising rather than "clean", distorted rather than "straightforward", ambiguous rather than "articulated", perverse as well as impersonal . . ., conventional rather than "designed", accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear . . . I include the non-sequitur and proclaim the duality . . . Blatant simplification means bland architecture
>
> (Venturi, 1966:22).

In response to Mies van der Rohe's "Less is more", Venturi replied, "Less is a bore." Postmodernism applies total acceptance of the discontinuity, and the chaotic. "It swims, even wallows in the fragmentary and the chaotic currents of change as if that is all there is," as Harvey (1989:44) put it. Overlapping themes include dramatic "revivals" of nature[9] contextualism, historicism, the search for urbanity, regionalism, anti-universalism, pluralism, collage, self-referentiality, reflexivity, preoccupation with image/decor/scenography, superficiality, depthlessness, ephemerality, fragmentation, populism, apoliticism, commercialism, loss of faith, and irony (see illustrations 68 and 69). Baudrillard's (1993) claims, that the postmodern is characteristic of a universe where there are no more definitions possibl . . . It has all been done.

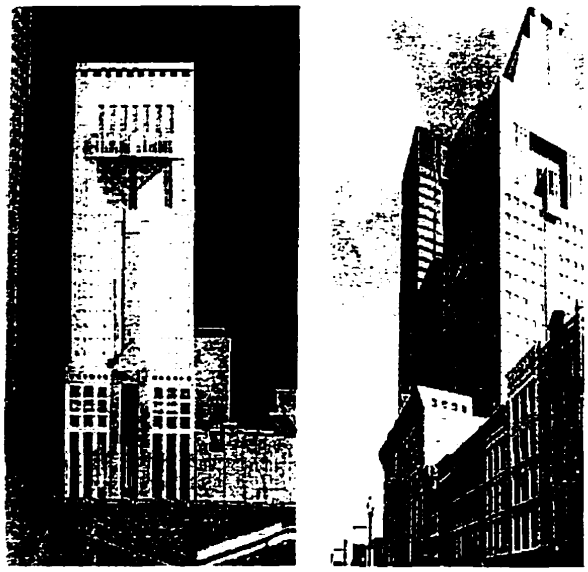


Illustration 68. M. Grave. Humane Corporation Medical Headquarters, Louisville, Kentucky

Illustration 69. Kazuhiro Ishii, "54 Windows", 1976. These house and office for doctor incorporates this large number of differing windows to symbolize Japanese regionalism. The plurality of signs in a grid is also meant to signify urban pluralism.

[9] Violent modifications of nature have made us grasp the aggressivity of industrial capitalism and modernization generally. This entails a conception of a human nature as well. Jameson (1994) observes that:

> Notions of a new kind of post-AIDS self-restrain, of a discipline necessarily directed toward the self and its desires and impulses; the learning of new habits of smallness, frugality, modesty, and the like; a kind of respect for othernness that sets a barrier to gratification — these are some of the ethical ideas and figures in terms of which new attitudes toward the individual and the collective self are proposed by a (postmodern) ecology.

Urban Issues

> We know how to do many things, but do we know what to do?
> (Schumacher, 1973:91)

We started in the beginning of this study with Wittgenstein's code that "when all possible scientific questions have been answered, the problems of life remain completely untouched." It does appear that our knowledge is of limited value in dealing with the issues of the lived-world. A lack of know-how certainly was not the cause of despair not only of religious thinkers like Kierkeguard but also of leading mathematicians and scientists like Russell, Hoyle or Mitchell Feigenbaum (noted by Kauffman, 1995) who faced with chaotic behavior during his experiment commented: ". . . for anyone with a mathematical background, if you look at this stuff, or you stand at a sea wall in a storm, you know that you really don't know anything." Similarly, we are in the same position in our endeavor to find proper answers on the present problems of cities.

The Discourse on Cities

> This society has its own landscape -- a rational, absurd, confused present-day landscape that had no equivalent prior to the nineteenth century.
> (Henri Lefebvre, 1991:38)

As already mentioned, in the late-twentieth century worldwide electronic communications and new sources of energy caused the emergence of the global market economy, completely erasing the boundaries between time and space. In this new "global village", many human-driven processes of all kinds are becoming global in scale. This is also reflected in cities, since concentration of money and power, and centres of these processes, assume an increasingly important role in present societies. The rapid growth of cities, in both: developed and developing countries, has become a striking characteristic of our world. Urban population growth, as pointed out earlier, is mostly due to migration of rural people faced with declining living standards in depleted rural environments, as one of the unexpected consequences of rapid economic

growth. The rest of those consequences, as discussed in previous chapters, different social and political problems such as unemployment, violence and riots, as well as environmental crisis, have all suddenly emerged in rapid succession. Again, they are centered and most noticable in the world's cities thus becoming extremely important urban issues.

Placelessness

Globalization, electronic means of production, and uniform mass culture have influenced, in recent years, the emergence of a wholly new kind of city, an "ageographical" city — a city without a place. Humanism[1] is merged with attempts to use scientific and technical knowledge for human welfare, and its landscape manifestations are implicit in self-consciously designed and planned environments. This means that the individuality of a place is now far less important then its general properties (see illustrations70 and 71). New techniques require that various moral issues and political freedoms are overlooked in the interests of increased productivity and efficiency. In today's ageographic megalopolis; architecture is reduced to the status of a "plaything, tolerated as decor for the illusions of history and memory"

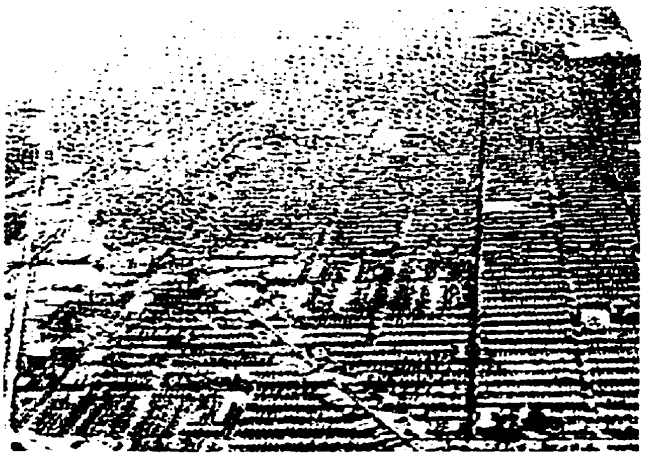
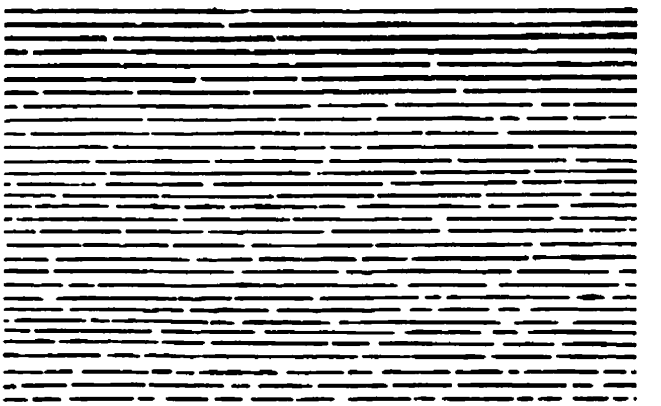


Illustration. 70.
Placeless Geography: Chicago and West Toronto



Illlustration 71. The plotting of a placeless geography; Melvin Webber's representation of the non-place urban realm of the United States.

[1] Relph (1981:15) definies humanism as "the conviction that men and women can best improve the circumstances of their lives by thinking and acting for themselves, and especially by excercising their capacity for reason."

(Tschumi cited at Davidson, 1995). Space underscores and reinforces whatever division of labor is active in the social order in question. Furthermore, as Lefebvre (1991:420) indicates, space assumes a regulatory role when and to the extent that contradictions are resolved. This is probably one of the main reasons for growing public interest[2] in architecture and urbanism in spite of general dissatisfaction and frustration within the architectural profession with the built environment. Since architecture is neither pure form nor solely determined by functional constrains, the search for definition of architecture must always expand to an urban dimension[3]. Therefore, a response to placelessness, seems to be the most important urban issue.

The Role of Urbanism

Urbanism, as the attempt to organize the life and circulation of the larger city space is obviously, an engagement that requires dealing with the incredible accumulation of economic, cultural, political, and social issues. Lack of order can be seen in all those spheres. Whether this engagement (that is urbanism or urban architecture), influence those issues or just deals with them, is a question that becomes important at this point. The question that could be asked as well, to what degree are we locked into our own system. The answer that Lefebvre[4] (1991) offers is that the reality of urbanism modifies the relations of production without being sufficient to

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[2] Growing public interest in architecture, as indicated by Ellin (1996:230), is indexed by increased sales of books and magazines, the historically unprecedented celebrity that certain works of architecture and certain architects have been enjoying, more public debate, the increased interest of other academic disciplines in architecture, and the growth in the historic preservation, rehabilitation, and tenants or home owners' movements which could be interpreted as symptoms of the widening gap between what the market provides and what consumers want.

[3] Tschumi (1995) believes that there are only 3 possible roles for architects today:

> Either we "conserve" our historical role as translators of, and form-givers, to the political and economic priorities of existing society, or function as critics and commentators, acting as intellectuals who reveal the contradictions of society through writings, outlining possible courses of actions. Finally, we could act as revolutionaries by using our environmental knowledge, our understanding of cities and the mechanisms of architecture, to be part of professional forces trying to arrive at new social and urban structures...exploring whether there is not another angle to the story or another way to address "the issue of architectural change."

[4] The two themes of urbanization and the production of space are interlinked in Lefebvre's thought. Increasingly during the 1960s, he came to recognize the significance of urban conditions of daily life, as central in the evolution of revolutionary sentiments and politics. The city had been superseded by a process of urbanization or, more generally, of the production of space, that was binding together the

transform them. Any changes or needs tend first of all to incorporate things and people into the mental structures that have already been constructed, and secondly, to readjust these structures as a function of subtle transformations i.e. to "accommodate them to external objects." Thus, urbanism becomes a force in production, like science. Space and the political organization of space express social relationships but also act back upon them. Confrontation and challenges to the established order can always be attributed ultimately to the "class struggle". It is no longer possible, however, to describe the frontiers of the battle. "The fact is," Lefebvre (1991:418) argues, "that such disputed frontiers cross all spheres, including the spheres of the sciences and of knowledge in general, and all sectors of society, extrapolitical as well as political."

Therefore, we can say that this global village is driven by powerful sources of economic expansion, property rights, and the free market. The inevitable question that arises here is whether it is possible, then, to impose planning or control mechanisms that "protect" the public space (as well as place) and natural environment in this global village? Perhaps we could also ask whether we are able to provide the right answer, or whether the solution is necessary at all?

"The Answers"

Since the 18th century, when Europe and North America experienced an urban boom, as a result of the processes of industrialization and global trade, efforts have been made to counter unplanned and disorderly urban sprawl with coherent planning strategies. However, all over the world cities have tended to defy rational planning, sometimes spreading uncontrollably, driven by the forces of industrial growth. It is interesting to observe the ways in which architects and urban planners react to these recent transformations.

The response to the challenge of placelessness and a need for urban community started

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global and the local, the city and the country, the centre and the periphery, in new and quite unfamiliar ways. Daily life, had to be reinterpreted against this background of changing production of space. But he does not consider this purely from a technical, economic or even political standpoint, but search for the ways in which to interpret revolutionary action, to generate new forms of representation of the possible, against a background of social processes that were redefining the very nature of human identity.

in the late 1950s. The critique of modern architecture and urban design flowed mainly from "social planners" at the University of Pennsylvania and in the pages of the British Architectural Review. Additionally, people like Jane Jacobs, Christopher Alexander, and Christian Norberg Schulz, demanded that we should rebuild our cities in a different way so, as Condon (1994:4) put it, "a new structure of rooms cut into the earth, the forest, and the city, would warm our souls." That initiated new but at the same time conservative approaches to urbanity.

This conservative tendency remains faithful to old "truths"; it tends to achieve a dynamic unity, acknowledging the need for flexibility of architecture and urbanism. It demands to — rehabilitate, revitalize, restore, re-use, renew, redevelop, recycle, renaissance, etc. These architects and planners have been experimenting with color, applied ornament, monuments, historical references, historic preservation, participatory design, and the application of ideas from the social and behavioral sciences and the humanities. The most remarkable figure of this "traditionalist" approach is Leon Krier, architect and urbanist who believed that the architecture of the city can not be separated from its "social, political

Illustration 73. L.Krier

Illustration 74.
Leon Krier. Proposal.

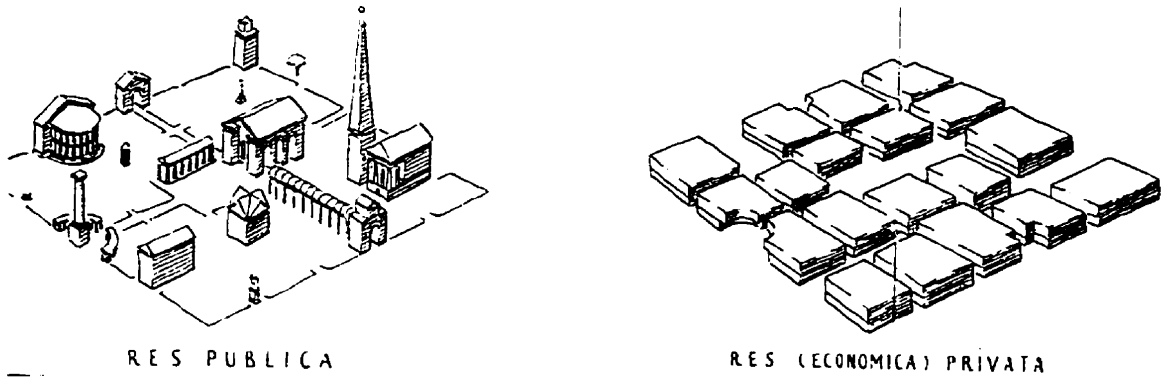


Illustration 75. Res Publica -- Res Privata. L Krier.

and moral associations," and together with Maurice Culot, he suggested that constitutive elements of the pre-industrial European city — the quarter, the street, the square — must form the basis for any reconstruction of cities (see illustrations 74 and 75). By returning to a pre-industrial golden age, he demonstrated how the destroyed fabric of the historic city could be repaired and a traditional set of well-scaled spaces added to this core.

Several different theories of environmental art appeared and most of them were prescriptive and based on visual order. Colin Rowe as contextualist, saw architecture as reflecting, rather than determining the dialectic between the traditional city and Le Corbusier's "city-in-the-park." His "collage city" is a didactic instrument and is important to induce criteria which will determine the city's preferred ethical content. Neo-rationalist Aldo Rossi, architect, writer and urban theorist argued that architecture as a discipline is quite capable of understanding the city and its problems, as the city is a City of Memory. In much the same way, Antony Vidler considered the city as a whole; its past and present are revealed in its physical structure, and the city is "in itself and of itself" a new typology, providing material for classification, and the forms of its artifacts provide the bases for re-composition. Recently Peter Calthorlpe, Peter Katz and others, offer the New Urbanism's recipe for how to make the American city and its suburbs more livable.

Kevin Lynch offered an urbanism of "good city form." His ideal of the city is somehow memorable, mappable and organized around the human body to a human scale. He applied

phenomenological humanism to the urbanity. This involves a certain tension asking specific buildings to accept a reduced position within the perception of the whole, rather than to strive to become themselves microcosms and models of the totality. He implies that the elements which constitute the spatial structure are concrete "things" with "character" and "meaning". He limits himself, however, to discuss the spatial function of these elements, and thus leaves us with a fragmentary understanding of dwelling. Nevertheless, the work of Lynch constitutes an essential contribution to the theory of place. Christopher Alexander has a similar, phenomenological method. His method is based on the decomposition of sets of environmental objects and activities into their atomic elements, and the reconstitution of these into a design solution. It has considerable value for improving current design strategies and possibly for achieving designs that fit local situations.

However, these, and almost all the other procedures of environmental design, are either too formal and too rigidly prescriptive, or they treat experience and meaning only as other variables capable of manipulation. This neo-traditionalist perspective, usually overlooks change, and asks to return to a time when life was "simpler, saner, and generally more satisfactory."

Two remarkable figures that that did not only criticise modern architecture, but offered exceptionally profound background study, explaining problems of the contemporary city through a holistic, interdisciplinary approach are Edward Relph and Jane Jacobs. Relph, a geographer, gives elaborate investigation on place and placelessness. He finds that the most of contemporary analyses of behavior problems are mechanical and abstract, simplifying the world into easily represented structures of models that ignore "much of the subtlety and significance of everyday experience", and the consequence of that was that these simplified structures often serve as the basis for proposals for the design of environments. Relph's argument for placelessness, offers the possibility that perhaps "we who live in the midst of the modern are an illustration of the

remarkable human ability to adapt to any situation, no matter how bad." He offers an alternative approach to understanding the environment. This approach is "environmental humility", which is not a technique, but rather a mode of finding means of directing events and circumstances gently and appropriately.

> Perhaps we can see whether any of the new forms we have imagined might secretly correspond to new modes of life emerging even partially. Perhaps indeed we might start to do this at the existential level, at the level of daily life, asking ourselves whether we can think of spaces that demand new kinds or types of living that demand new kinds of space.
>
> (Relph, 1981:14)

Jacobs, on the other hand, argues that cities should be identified, understood and treated as problems of organized complexity. She sees cities as being "organic, spontaneous, and untidy." For her, the doctrine of visual order (that most neo-traditionalists have) is at fault for not only imposing a rigid geometry which goes against the natural grain, but also for imposing rigidity of social and functional structure, both of which are highly unrealistic and thus increase rather than diminish the problems they seek to solve. Instead, she urges that for proper understanding and solving cities problems, it is necessary to understand the functioning order of cities, their economy, so she covers at least four distinct fields of inquiry: urban design, urban history, regional economics, morality of the economy, and ethics. If, as we believe, innovative work towards solving our contemporary urban problems lies in interdisciplinary analysis, her work certainly makes a strong case for it.

Both of these theorists offer a holistic and interdisciplinary approach to contemporary urban problems. The multidisciplinary background of their analysis allows us to recognize that the city can be read in many ways, including the architectural way. They both underline the importance of understanding different layers and complexity of cities, as well as possible danger in simplified, prescriptive solutions to clearly defined problems. Their contribution to urban theory makes them, in a certain way, precedents of a recent, radical prospect in urban thought that sees new change in the world — as an opportunity for introducing new ideas and practices in urbanity. This trend, we will call here "postmodern urbanism."

Postmodern Urbanism

> It would require a second innocence to believe, at this end of the 20th century, that the urban -- the built -- can be planned and mastered. Too many architects' visions have bitten the dust to propose new additions to this chimerical battalion. . . . The most interesting thing about architecture is arriving in new worlds rather than returning to old ones.
> (Rem Koolhaas, 1995)

"Postmodern urbanism," raises questions and provokes, or simply tries to accommodate post-industrial society instead of shaping it. It is represented by postmodern architects like Koolhaas and Tschumi. In the same way as Umberto Eco, they lost their innocence which Krier still has; they believe that this innocence is gone for good. However, Krier's traditional motivations are idealistic and utopian (in the sense that they are unlikely to be realized), and it is exactly this utopian point of view which makes him become almost postmodernist. The reason for this claim lies in the difference between his and utopian modern architecture. While in Krier's case, as Jameson (1995:193) notices, "the idea of Utopian space, the Utopian building, or even the Utopian city plan, dies hard; for it alone can embody the political aspiration for radical change and transfiguration," Modern urbanism tries to create a radically different space within the existing one, producing not buildings and dwellings, but sculptures. "A mode of speech," Wittgenstein said, "is a mode of life."

Illustration 76. Koolhaas:Byzantium.

Therefore, postmodern urbanism denies strategic planning because it is not possible to control the overall building or city. Architects like Koolhaas or Tschumi drop "blobs in the field" and that's the extent of their control. This probably makes them anarchists.

Koolhaas in today's "generic city", the city without qualities and identity, which is simply an inventory of a new urban condition that is equally pervasive in

Asia, in America and in Europe, sees the forgotten and neglected quality of the large contemporary city. The lack of identity, he understands as liberation from a whole series of obligations, a whole series of assumptions and a whole series of models. "For me," he says (1995), "it really represents an enormous relief and a sense of freshness that we are no longer forced to pretend to have certain competencies and abilities." What used to be the city is replaced by a "highly charged nothingness." The

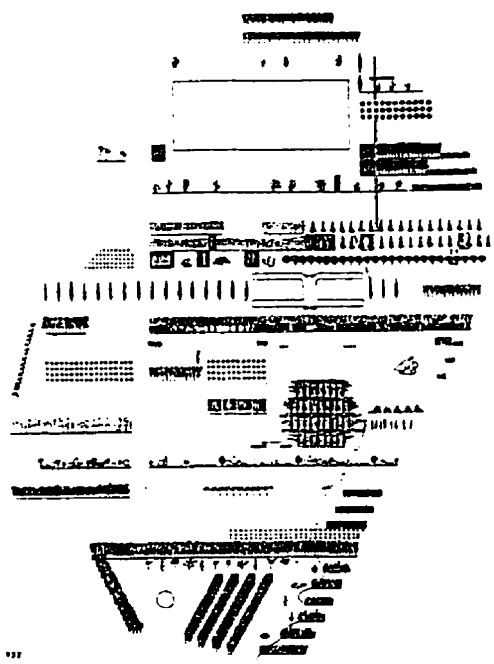


Illustration 78. and 79.
Koolhaas: La Villette.

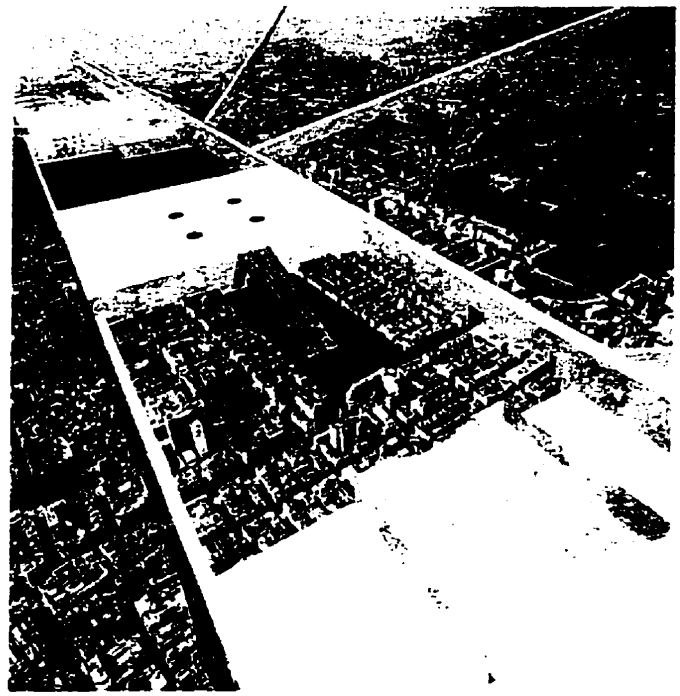
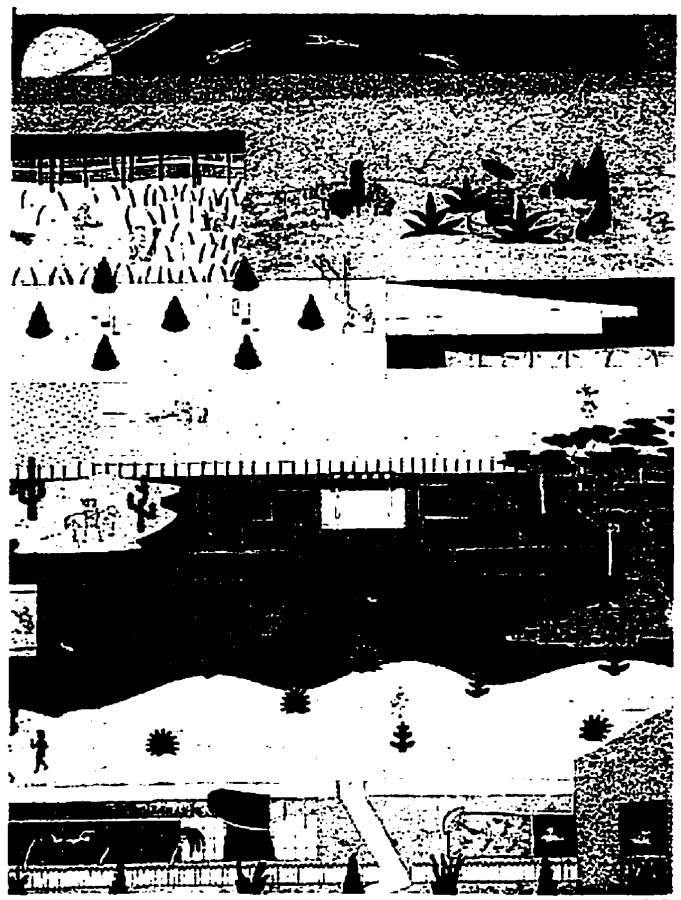


Illustration 77. Exodus, Or The Voluntary Prisoners Of Architecture.



kind of coherence that the metropolis can achieve is not that of a homogeneous, planned composition. It can be, at the most, a system of fragments, a system of multiple realities where the desire for stability and the need for instability are not incompatible. This is where Koolhaas finds his strategy that can be called "dirty realism"[5], a new reality that cannot simply be dealt with by a reactivation of the older cultural and class attitudes. In that way, the new individual building does not even have a fabric into which to "fit," rather it must somehow merely replicate the chaos and the turbulence all around it, thus creating a new cultural condition "free" of architecture — a city organized around its voids[6] — a kind of post-architectural modernity (see 77-80). Therefore, he is incorporating into his work the structural processes that are informing our society as a whole — something architecture has always done, and is creating architectural metaphors for these new processes. Koolhaas believes that "architecture reveals the deepest and sometimes most shocking secrets of how the

Illustration 80. Urban planning Competition New Town of Melun-Sénart. Diagrams with the elements of the project and table showing the superposition of the various bonds : 1. Bond of connections. 2. circulation bond. 3.Programmatic bond. 4. Landscaped bond.. 5. Bond of voids. 6-7. Border bonds

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[5] "Dirty realism" is clearly portreyed in the film *Blade Runner*, called "cyberpunk" that has been mentioned earlier. Traditionally organized architectural and everyone's space have disappeared and we are suddenly in a situation which is much more absurd and potentially much more dangerous but where anything can be combined to coexist with almost anything else.

[6] Thus, at La Villette, a chain reaction of events is generated almost without building. The relevance of such projects for us is that they include an entire world within themselves

values of a society are organized."[7] This lack of resistance and absence of necessity for discipline can be considered as an attempt to allow a different kind of order to happen. It is exactly the same thing Jane Jacobs was telling us about, pretended order and real order in the complexity of cities. Furthermore, Koolhaas recognizes "the client as chaos" and uses it as a creative force rather than compromise. "Chaos simply happens. You cannot aspire to chaos, you can only be an instrument of it." The architect is obliged to confront the chaos of the metropolis with the knowledge that his "reforming" action is nothing more than a precarious resistance. The image of the architect held with particular fondness by Rem Koolhaas is that of a surfer on a wave: "the force and the direction of the wave are uncontrollable, it breaks, the surfer can only, in exposing it, 'master' it by choosing his route. . . "

Illustration 81a. Bernard Tscumi: La Villette.

Bernard Tschumi sees chaos as a legitimate urban form. Today a megalopolis like Tokyo or New York, for example, only appear chaotic; actually, they are a new urbanity, a new urban structure. This new urbanity questions the relationship between architecture and program, between space and its use. Since in our contemporary society programs are by definition unsta-

[7] A shortlist of 15 such influences includes: 1) Transnationalism, 2) Vectorialization, 3) Asynchronicity, 4) Institutionalized impermanence, 5) Deregionalization, 6) The obsolescence of physical space, 7) Rupture, 8) Discontinuity, 9) Diversity, 10) Arbitrariness of location, 11) Nodes and clusters, 12) Drive Thru-ness and fluidity, 13) Centerless cities, 14) Edge Cities, 15) De-industrialization, 16) Fiscal restraint.

ble, he suggests that architecture should create "non programmed spaces", spaces that are not defined and programmed in relation to their context. He underlines the importance of an event of everyday life and movements in architecture, arguing that the event is the place where the rethinking and reformation of the different elements of architecture may lead to their solution. By definition, it is the place of the combination of differences and will not happen either by imitating the past and eighteenth-century ornaments or by simply commenting through design on our contemporary conditions. Therefore, he suggests a new definition of architecture which is never autonomous, never pure form. It is not merely a matter of style and cannot be reduced to a language. Architecture is a practice of making things happen, and architectural experience is produced by a system of movement generators. Precisely this "event" dimension, the dimension of action, is what makes up a city[8] as a complex and interactive web of events (see illustrations 81a and 81b). Thus he opens the possibility for a new urban strategy that encourages a new type of architecture capable of generating a new urban lifestyle. Accordingly, the role of architecture is not about the conditions of design but about the dislocation of the most traditional and regressive aspects of our society by simultaneously reorganizing these elements in the most liberated way, so that our experience becomes the experience of events organized and strategized through architecture. "Strategy is a key work in architecture today. No more masterplans, no more locating in a fixed place, but a new heterotopia."

Illustration 81b.
Fireworks, La Villette.

Postmodern urbanism argues that cities should not be altered to correspond to the common opinions as to what "good cities" are, but that opinions about the city need to be changed instead and architecture's importance is in its ability to accelerate society's transformation through a careful agencing of spaces and events.

[8] La Villette, Chartres and Rotterdam are projects of urban planning in which the organization of the territory precedes the definition of any specific program. What distinguishes these projects, however, is the manner in which their programmatic dimension becomes as much a part of their architecture as of their use. The Park project can be seen to encourage conflict over synthesis, fragmentation over unity, madness and play over careful management.

Part 4

Conclusion

Illustration 82.

An Urban Theory of Chaos

So far it has become very clear that in dealing with cities we are faced with the incredible accumulation of economic, cultural, political, and social issues, which requires an engagement for which we use the word "complexity". As well, we learn that a city is quite in accord with the dominant attitudes in present day society. Furthermore, the lifeworld is that background of beliefs, values, and practices that provides a horizon of meaning for our actions. It is time to draw some conclusions. Hopefully, it is possible to read that conclusion between the lines, because there is only one possible conclusion that can be driven from our discussion of the issues of the lived world and the city within that world.

Chaotic Growth of Life and "Autopoesis"

We tried to bring together different issues into a framework. We analyzed many chaotic characteristics of the present world and present society on a different scale and different areas: technological change induced complex economic growth that resulted in unexpected consequences (usually we call them crises, since they showed all the characteristics of uncontrollable and disordered behaviour), such as environmental crisis, which included both — natural and urban environment, and on the socio-political sphere, crisis were manifested, if mild as — poverty and unemployment, and if severe then as anarchy and violence. These unexpected consequences occurred in a pattern that looked like a chain reaction, or like that self-similar pattern recognized as an indefinitely deep reflection of an object posted between two mirrors, that we mentioned before in the chapter about chaos theory. We came to the realization that the present city with all its problems and all the issues of the lived world that creates this city of today is part of a complex order, order of life, self governing and organic.

When discussing urbanism, it is possible to notice the same thing. It has already been

mentioned that readers of the city tend to be divided between those who find a chaotic mass of unconnected detail and fragments, and those who see its patterning as pervasive. Instead of fragments, they see fractals; while one sees the whole design, the other does not see it at all. For Jane Jacobs, cities are about complexity, diversity and density. They are organic, spontaneous and untidy. Relph does not believe in pictures that the new world is ugly, and that the individuality of persons and places has been overwhelmed by mass culture. He offers the possibility that the new world and new space creates a new kind of people or vice versa. Koolhaas optimistically observes global change, while "dirty realism" relieves him from a whole series of obligations, offering endless opportunities. Finally, Tschumi sees chaos as a legitimate urban form and the only real solution to the problem of urbanity.

So first let's say that today's city is disordered and chaotic in precisely the same way that is defined in any other chaotic system. In the Japanese city where urban uncontrolled growth is most obvious, the idea of chaos is not only well documented and understood, but also it has already become an object for consumption. There, chaos has rapidly become the dominant *leitmotif* of architecture and urbanism. According to historian Robert Fishman (noted by Garreau, 1988), all new city forms appear in their early stages to be chaotic.

> There were a hundred thousand shapes and substances of incompleteness, wildly mingled out of their places, upside down, borrowing in the earth, aspiring in the earth, moldering in the water, and unintelligible as in any dream.
>
> (Charles Dickens on London in 1848)

This description of London in 1848, may as well be the description of most of our metropolis and edge cities of today. In the 19th century, the department store and railway station were the expressions of the ruling, political, commercial, and productive structure, yet they also positively transformed social structure. Tschumi believes the same thing happens today with shopping malls or airports; they are the result of the attempt to generate an imitation of life. They are not necessarily evil things in a sense that they can be transformed through dialectic process or

through the process of evolution explained in chaos theory.

It is worth mentioning here the recent novel by William Gibson[1], *Virtual Light* (1993), which is inspired by a collaboration with the architects Ming Fung and Craig Hodgetts of a remaining San Francisco. Throughout the book is underlined the persistence, of a now standard opposition between the planned — the boring, totalitarian or corporate (as in the malls of this novel) — and the chaotic, somehow natural, "grown in the wild" structure called "The Bridge."

> . . . But none of it done to any plan that he could see. Not like a mall, where they ply a business into a slot and wait to see whether it works or not. This place had just grown, it looked like one thing patched onto the next, until the whole span was wrapped in this formless mass of stuff, and no two pieces of it matched. There was a different material any where you looked. . . .
>
> (Gibson, 1993:178)

"The 'fallen" city fabric. . . is in reality a vernacular", Koolhass (1995) observes, "it can be spoken and learned in its own right. . . The city fabric is now to be endorsed, rather than reformed or replaced" This new vernacular fabric is deeply rooted in the postmodern era, where it stands for pluralism, flexibility, consumption, and so forth, as opposed to bureaucracy, intention, and planning, and it can be described in terms of chaos theory. It is the same vernacular as in developing-world megacities squatter settlements, that gradually turn into "respectable" neighbourhood, as mentioned earlier. Although this fabric is not vernacular in the traditional sense, it is vernacular as a genuine postmodern heterogeneity and at the same time consistent with the free market itself. Since it gathers things and fragments that supports a form of life, giving meaning to each other, it becomes itself a world and a place in a Heidegger's (1969) sense[2]. It is autopoetic in a

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[1] William Gibson is considered the father of the Cyberpunk paradigm. His revolutionary novel, *Neuromancer* has won global recognition as one of the most influential novels of the past 50 years. Gibson is the author of the entire Sprawl series of books, including *Neuromancer, Count Zero*, and *Mona Lisa Overdrive*. He has also written a collection of short stories entitled, *Burning Chrome*. Gibson's view of the future is a dark and sinister one, where large multi-national corporations have more power than the traditional governments. In his books, technology and punk culture collide, placing the high-tech at the street level.

[2] Heidegger thinks of place not as an occasional refreshing center amid the wider world, but as itself a world. Heidegger pictures a net of places that support forms of life. He writes of the wine jug that in

way defined by Kant in the late eighteenth century, and later, in the 60's by two Chilean scientists Humberto Maturana, and Francisco Varela (noted at Kauffman, 1995:280), who defined autopoetic systems as those with the power to generate themselves. Kant thought of organisms as autopoetic wholes in which each part existed both for and by means of the whole, while the whole existed for and by means of the parts. In exactly the same way, we looked at the cities of today; where all their fragmented parts were, in fact, fractals that create the whole of the city through processes of the three underlying themes of processes of self-organization, selection and historical accident, discussed previously in chaos theory.

But how can such a productive chaotic system be planned? Can it be built into the city or into the individual building, particularly when that building is a megastructure that wants to rival the city." It is easier to believe that all reality is constructed and that we have little or no option but to embrace our "destiny." "The city is dead, long live the cybernetic megalopolis!" In a certain way, this may be an expression of an nihilistic epoch, the end of historical progress where the whole world is becoming just a work of art. Our own time, however, is hardly at that stage; as Alberto Pérez-Gómez (1994) notices, we live in a time of "incomplete nihilism." Perhaps to achieve that "contemporary vernacular" urbanity, we could apply the anthropological method to design as Lucien Kroll (1986) suggests. According to him, architects should adopt an "ethnological attitude." "Fit is a process, not a procedure which receives and transmits, not wanting to master everything." For him, architects should allow some things to remain obscure (which seems irrational, however in the present situation it is reasonable). This approach seems to promise a much better understanding of a reality which is "fluid, moving, and unknowable", and it has its equivalent in economy when things are done by using an empirical approach[3]. Kroll

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its use brings together a whole way of life with its practices, its past, its ideals, and its projects. He speaks of the place gathered by the bridge over the river that supports and calls together a differentiated world of town an country ways of loving. He writes of the Greek temple that centers the life of the people while also allowing the natural environment to appear within that contest as something that transcends our human worlds. The jug, the bridge, and the temple are not neutral facts onto which meanings are projected. They gather together a life.

[3] According to Japanese anthropologist, Tadao Umesao (noted at Jacobs, 1984), observes that historically the Japanese have always done better when they drifted in an empirical, practical fashion

argues that "To allow things to happen themselves is much more efficacious than to prescribe everything." This could be called the vernacular approach or perhaps an approach toward order in chaos and it looks like the space within which both Tschumi and Koolhaas find their approach when designing the conditions for events or for chaos to happen. Tschumi lets events to create space, while Koolhaas lets the structural processes that are informing our society to be incorporated into his work.

"Utopia of Chaos"

In the end we can say that a "utopia of chaos" has emerged. It is a utopia of how the present city could look in the future, it is a kind of cybernetic and information utopia of the city with lots of people, and with "change so rapid that one would have no totalizing knowledge of it", as Jameson puts it. The older "pastoral utopia" with architecture and urbanism of ornaments, very often characterized as static and changeless, is present just to remind us on history and different times. However, it has a balancing role and is juxtaposed with this newer one. The tension between those two utopia has been so far a very interesting, rich, and productive. Thus, it seems that this new urbanity or "counter-urbanism" (in Henri Lefebre's sense of the word), has to consist both of them creating rich collision of events and spaces. The confrontations and combinations of elements may provide us with the event and the shock that Tschumi is looking for. Our new time has "produced" a new cyberspace and this cyberspace is creating a different kind of place where we can express our new identity (since we were changed as well). "Fallen" and fragmented fabric of our cities together with old "pastoral" fabric evolve through process of self-organization into new vernacular architecture, which is our order in chaos, which has our human scale and reveals our identity. It is something that we can call the "utopia of chaos."

("Even during the Meiji revolution there were no clear goals; no one knew what was going to happen next') than when they attempted to operate by "resolute purpose" and "determined will." In its very nature, successful economic development has to be open-ended rather that goal-oriented, and has to make itself up expediently and empirically as it goes along.

Architecture, Urbanism and Environmental Knowledge

It can sound disappointing at the end that we are left without some radical theory strong enough to lead us directly to a new and better urban structure. Architecture and its spaces do not change society, but through architecture and the understanding of its effect, we can accelerate processes of change under way. It is exactly the same way in which Umberto Eco underlines the importance of his job as a scholar and a citizen to show how we are surrounded by "messages"[4], and to know what to say we must know how to analyze and criticize them.

> I will put it like this. The battle for the survival of man as a responsible being in the Communications Era is not to be won where the communication originates, but where it arrives. . . Precisely when the communication systems envisage a single industrialized source and a single message that will reach an audience scattered all over the world, we should be capable of imagining systems of complementary communication that allow us to reach every individual human group, every individual member of the universal audience, to discuss the arriving message in the light of the codes at the destination, comparing them with the codes at the source. . . . An educational organization that succeeds in making a given audience discuss the message it is receiving could reverse the meaning of that message. Or else show that the message can be interpreted in different ways.
>
> (Eco, 1986:143)

In this age, where our identity of place and new urbanity is achieved in "order in chaos", freedom is apparently achieved by means of computers and cybernetic techniques. Thus, we are here to use our environmental knowledge and our understanding of cities in order to reveal the absurdity of our current condition and, of course, to accelerate change. We are here to be part of the professional forces trying to arrive at new social and urban structures.

Epilogue

This study is about rethinking, restating, and reformulating urban theory. What is the final result ? As mentioned earlier, this thesis attempts to circumscribe a view of cities in a particular way, the philosophical and epistemological orientation which is recognized in this case as

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[4] Here he means the messages of products of political power, of economic power, of the entertainment industry and the revolution industry.

chaos. This research suggests that the new urbanity or perhaps our new "counter urbanism" can be achieved in "order in chaos" where a new kind of place is produced, a place that reveals our new identity. It is my hope that through the study presented here, everyone can get a sense of what these ideas are and use them in forming their own way of looking at cities. As Kauffman (1995) put it, "We are all part of this process, created by it, creating it. In the beginning was the word — the Saw. The rest follows, and we participate." Since this is a process and not fixed theory, I hope there is no any final result. Therefore, this theory is about a new view of cities, rather than a set of new instructions and directions. The emphasis is that we need to learn and to apply as much knowledge[5] that is true and useful about cities as possible. Furthermore, it is important to have a more complex view of the world and cities within that world. Therefore, in this study, "the holistic view" defines a way of thinking about the city in relation to different disciplines.

This thesis shows that the physical growth of the city, as well as the interaction of processes that govern our world and the city, could be defined as uncontrollable and chaotic. In a system, that behaves in a controllable manner, solutions are found piecemeal, assembling good design by a succession of trial-and error. However, in a chaotic system, where minor variations cause catastrophic variations in its behavior, organism, or artifact, the fitness landscape is essentially random, because no local cues exist to detect directions of change that are uphill toward the distant peaks. This is the state in which are our cities (and our world) of today. No matter how hard we are trying to impose control and order, somehow, unanticipated consequences of economic growth, and urban growth, always arise. As pointed out in previous chapters, "chaos" is the only word that really can embody the reality of today's cities, which are complex, fluid, moving and unknowable. However, the word "chaos" also implies the other definition

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[5] Since the city is a "transdisciplinary" construct, knowledge that is important is generated not as a result of achievements in each separate field — urban theory, ecology, economy, anthropology, the social sciences, and technology, but in the space between them, because each can only be understood through the other. Knowledge, as pointed out earlier, does not begin with the knowledge of the self or of things as such but with a knowledge of their interactions. Therefore, specialist knowledge, although very important, at the point when we arive at whatever appears to be fundamental, becomes subservient to generalist knowledge.

which is "self organization," found in all the patterns of coevolution at higher levels — ecosystems, economic systems, and even cultural systems. It is the manner in which many disorganized systems can spontaneously acquire organization. The scientists believe that the "order" of the living world is probably what they, previously considered "chaos", pointing out the obvious fact is that the living world is graced with a "gift" of order. In a similar way, this study argues that the same order exists in our cities.

Within that order, a very important issue is the quality of life and the quality of the environment where we dwell. The significance of place in modern life is associated with the fact that as actors we are always situated in place and time, and that the contexts of our actions contribute to our sense of identity. In this way the understanding of place and space where we live today is of fundamental importance to our understanding of modern life. The space in our cities becomes in Henry Lefebvre's term, "abstract space," space without place attached to it. However, no matter how hard we criticize it, we can not discuss it in a productive manner, as long as we maintain a neat and moralistic distance from it. We have already pointed out that an individual is not distinct from his place, he is part of that place. Therefore, to define new ways (or point out present ones) of making places for ourselves that express our identity, we need to know who we are and to understand the world that we are in.

At the end of this research, we can say that we begin to understand what the problems are, as Fritz Schumacher (1989) says, "We are not blind!" Indeed we are not, and we have to explore more different approaches, that better suit today's situation. We have to create our "counter-space." In the meantime, we can enjoy this constant, unpredictable change, contributing in our own way to this complexity in our attempt to find a way to "dwell poetically" in today's world.

> . . . I thus come to the cheerful conclusion that life, including economic life, is still worth living because it is sufficiently unpredictable to be interesting. . . . Within the limits of the laws of nature, we are still masters of our individual and collective destiny, for good or ill. The best decisions will still be based on the judgments of mature non-electronic brains possessed by men who have looked steadily and calmly at the situation and seen it whole. "Stop, look, and listen" is a better motto than "Look it up in the forecasts."
>
> (Schumacher, 1989:255)

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IMAGE EVALUATION
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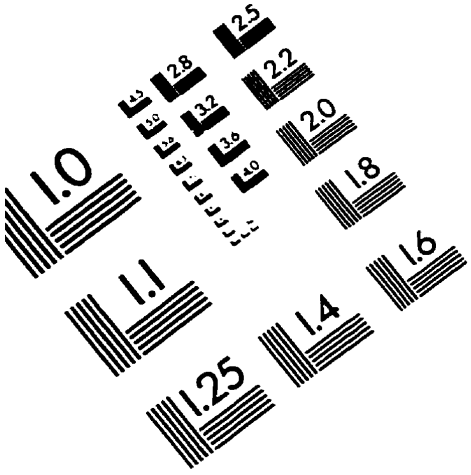

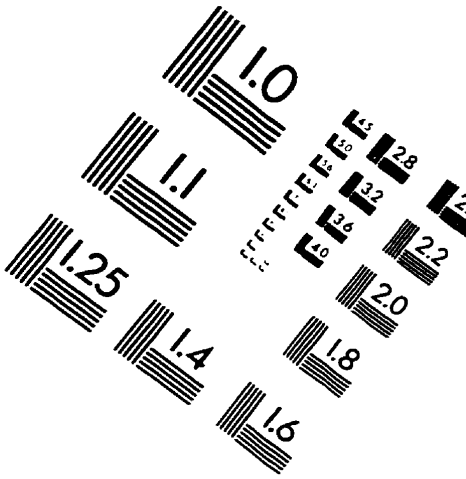

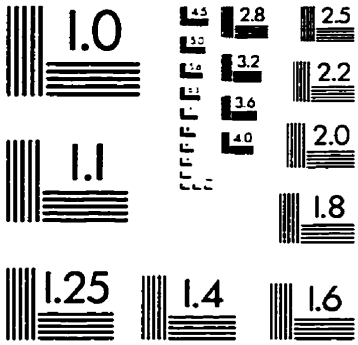

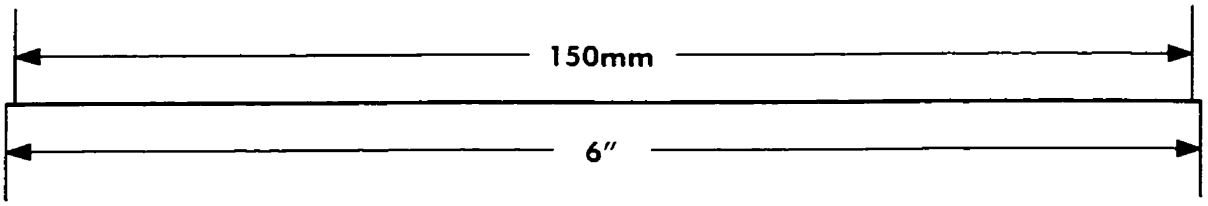

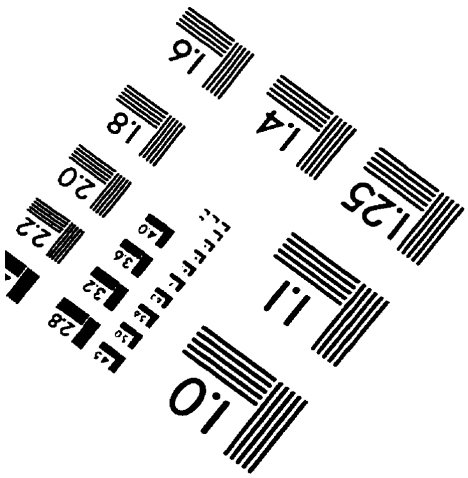

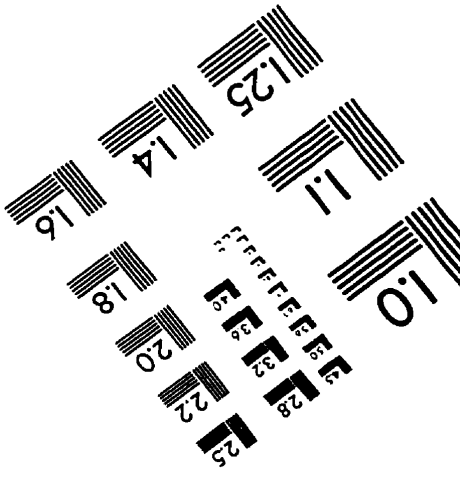

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