UTOPIAN DESIGN AND PLANNING

By

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ABSTRACT

The purpose of this thesis is to provide a current overview of the subject of utopian design in order to reaffirm its value as a component of planning methodology. From the relevant literature there is a wealth of comment on the need for such a paradigm expansion as well as a vast body of visions for alternate futures. Primarily a tool of physical planners, the utopian process can be adapted to the broader context if appropriate methodology can be developed and integrated into the mainstream.

The first chapter sets the context. It provides an overview of changing planning paradigms from the turn of the century and discusses areas of inadequacy in the current approach. The second chapter focuses on the subject of utopian design, its approach, and fundamental elements as a preliminary foundation for methodological development. The third and fourth chapters examine a series of early and recent utopian designs respectively. Early utopian designs are described and analysed as to their impact on succeeding planning thought, thereby establishing credibility; recent utopian designs are studied to speculate on the kinds of issues and options which planners may be involved in for the future.

The fifth chapter is a speculative exercise which synthesizes ideas from the vast menu of the utopian oeuvre into two diametrically opposed scenarios for Canada in the 21st Century. The intention is to illustrate the potential of utopian designs in modeling alternatives for discussion and decision-making.

In the final chapter, the thesis concludes by turning the discussion to other, non-physical aspects of planning where a utopian element can be effective. It is hoped that further research into this subject can result in a broadening and balancing of the current planning paradigm and thus advance the role and responsibility of planners in better
anticipating the future and in more creatively providing improved options for consideration.
## CONTENTS

*Abstract* ii  
*List of Figures* vi  
*Acknowledgement* vii

### Chapter 1: Planning Context

1.1 Introduction 1  
1.2 Experiential Holism (to 1935) 3  
1.3 Scientific Conjuncture 5  
1.4 Rational Comprehensive 6  
1.5 Recent Paradigms 7  
1.6 New Decentralism 8  
1.7 A Planning Critique 9

### Chapter 2: Utopian Design Overview

2.1 Introduction 14

### Chapter 3: Case Studies - Early Utopian Design

3.1 Introduction 22  
3.2 Garden City 23  
3.3 Contemporary City 28  
3.4 Broadacre City 35  
3.5 Discussion 40

### Chapter 4: Case Studies - Recent Utopian Design

4.1 Introduction 42  
4.2 Plug-in City 43  
4.3 Entopia 50  
4.4 Arcology 57  
4.5 Summary 65

### Chapter 5: Application

5.1 Neo-Centralism 74  
5.2 Superopolis 75  
5.3 Networking 82  
5.4 Antiopolis 83

### Chapter 6: Expanding the Planning Paradigm

6.1 Approach 91  
6.2 Future-Orientation 96  
6.3 Application 98  
6.4 Potential 101  
6.5 Summary 102

### Conclusion

105
**LIST OF FIGURES**

1: Hypothesis 2
2: Planning Evolution 4
3: Utopian Design Approach 18
4: Physical Planning Evolution 21
5: Garden City Concept 24
6: Garden City Detail 25
7: Contemporary City Concept 29
8: Contemporary City Image 30
9: Broadacre City Concept 36
10: Broadacre City Detail 37
11: Plug-in City Concept 44
12: Plug-in City Detail 45
13: Entopia Concept 51
14: Entopia Scale Framework 52
15: Arcology Concept 58
16: Arcology Image 59
17: Implementation 93
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I wish to dedicate this thesis to my wife, Nancy, in acknowledgement of her invaluable support throughout its preparation.
1.0 PLANNING CONTEXT

"First and foremost, the ideal community model serves as a device for exploring alternative objectives for urban development."

"For example, Picht pictures the future as a combination of prognosis, utopia and planning. The prognosis represents the experimental-empirical aspect, it makes a scientific diagnosis of the future, formulates a number of alternative possibilities and indicates different directions on the basis of the information supplied by the existing situation. From these materials the utopian imagination then creatively builds the optimum picture of the future. In this way social imagination creates new possibilities without running wild. The third element, planning, sees to it that the utopically created picture of the future is realized."
- Picht, quoted in Martin Plattel, 1972, p. 39

"...it was the utopian process rather than the utopian specific that should serve as present stimulus and inspiration. If we approach utopias experimentally, tentatively, consciously seeking alternatives, we should be able to avoid the static, complacent rigidity of past social and physical utopias, as the two traditions (artifact and institutions) become blended into a single instrument for the planning of cities."
- Martin Meyerson, 1961, p. 193

"The major purpose of an Ideal Community...is to serve as a model by means of which the possibility of various propositions can be tested."
- Thomas Reiner, 1963

"Nevertheless, at the minimum such studies, even if only partially successful, contribute to interesting lectures, provocative teaching, and stimulating conversation, all of which can broaden horizons and increase creativity - by no means negligible benefits. More important, these studies can affect basic beliefs, assumptions, and emphases. Probably most important, at least for us at Hudson Institute, is that long-range studies, provide a context in which to do five- and ten-year studies that can and do influence policy choices."
- Herman Kahn, 1967, p. 1

1.1 Introduction

The premise of this thesis is that the incorporation of a utopian design element into the current planning paradigm may be a timely and welcome addition in assisting the process to expand its future-oriented function as well as to counterbalance its
Figure 1
Hypothesis
rational/objective capabilities with an intuitive/creative aspect (See Figure 1).

Planning methodology is in a constant state of development, growing as data, information and knowledge expand, improving as tools and technology increase, maturing as society and its institutions become more sophisticated and complex, and advancing as contextual circumstances exert new demands and previously unexperienced phenomena.

The planning process has undergone continuous change and improvement since its inception as organized professional activity around the turn of the century. The following summary (Weaver, 1983) identifies the most significant highlights where planning has taken a new turn and discarded or expanded previous methodological components (See Figure 2). It establishes precedent for paradigm shifts such as is proposed in this thesis.

1.2 Experiential Holism (to 1935)

Physical planning, until the mid-1930s, was largely a matter of the experiential, relying either on the artistic, classical approach of the architect, on the expedient profit-oriented instincts of the entrepreneur, or on the rigid efficiency of the engineer. This seat-of-the-pants methodology was applied to the continuing settlement pattern of expansionary urbanization across the continent and was founded in either civic boosterism, attempted social reform through the notion of environmental determinism, or just plain quantitative accommodation of the growing urban centres.

The predominant physical results were the centripetal aspects of the short-lived but seminal City Beautiful movement of the 1920s, and the centrifugal aspects of the early suburbanization of housing. The grid layout predominated, with the exception
Figure 2
Planning Evolution
(Weaver, 1983)
of more free-form, "natural" layouts in wealthier residential areas and the classical geometry of the civic centres. The automobile was just beginning to exert an influence on settlement patterns, as was high-rise construction technology and the elevator, affecting downtown development.

During this period, the notion of synthesis of "town and country" played a major part in the growth of the Parks movement as well as in both the environmental determinist proposal of Howard and the centralist ideas of Le Corbusier. It was generally subscribed to that the city as produced by the Industrial Revolution under laissez-faire capitalism had to be replaced, or at least augmented, by a fusion of town and country.

1.3 Scientific Conjuncture

Planning gradually came to become "professionalized" during the early decades of this century. From the theoretical side came such thinkers and writers as Karl Mannheim, Lewis Mumford, and Thomas Adams; from the practical side came such designers and implementors as Raymond Unwin, R. G. Tugwell, and Clarence Perry. Planning came to be recognized as having a much wider potential than hitherto imagined: it began to be seen as a means to influence and effect much more than the built environment; it began to be grasped as a powerful tool in expanding the economy, battling unemployment, overcoming social ills, and dealing with urban pressures of all kinds.

After the Great Depression of the 1930s in North America, physical planning took on a major role in establishing the new and dominant pattern of urban settlement that was to last until well into the second half of the century: the centrifugal development of the urbanization trend to suburbia. In the U.S., the short-lived satellite Greenbelt Town program of Tugwell, a combining of Perry's Neighborhood Unit and
Unwin's Garden Suburb, took to the fore, with variations upon themes propagating themselves across the continent throughout subsequent decades.

The notion gradually appeared to evolve of planning as a science rather than an art. In cooperation among professionals, government and industry, the scientific side of planning gained a significant foothold in the minds of the professionals as well as in the minds of the non-planning world. Unfortunately this hold has threatened to become a stranglehold on the balancing, and in many respects more forward-looking, aspects of planning that could not be quantified. These qualitative areas tended to become submerged and have pretty well stayed dominated ever since.

1.4 Rational Comprehensive

From the mid-1950s to the present, the Rational Comprehensive planning paradigm has emerged as the dominant form of mainstream planning methodology. From the U.S. interstate highway program to urban renewal to the gobbling up of the unbuilt environment in the name of "clean suburbs", Rational Comprehensive planning became the undisputed, quantifiable, linear, goal-oriented approach to accomplishing more and bigger and faster in response to the post-war economic, industrial, and population boom years. The automobile and the single-family house dominated the form of settlement patterns; inner city neighborhoods were purged because they were old, unsightly, or unhealthy, and because the automobile required mass passage through and around the urban areas.

The notion of a "rational" approach to planning has pervaded the profession's activity: on the one hand, rightly so, with public funds being used for public facilities, and by using resources rationally as opposed to, one presumes, whimsically, one was required to objectively substantiate one's actions; on the other hand, a hamstringing aspect
whereby if such intangibles as aesthetics and spatial quality could not be justified in cost-benefit analysis they could not be permitted.

The notion of "comprehensiveness" was also intrinsically troublesome; unarguably desirable in aim, but hardly practicable in reality. Yet these twin characteristics of planning have come to dominate the scene through to the present, at least as basic teachable and communicable methodology. In practice however, Rational Comprehensive planning meant many things, and its ambiguity and overblown claims to fame sowed the seeds of its own growing lack of credibility.

1.5 Recent Paradigms

(Liberal Political Science Critique (1950-70); Radical Liberal (1960-75); Learning Theory (1970-80); Neo-Marxist Critique (1970-82)

During the past few decades, the Rational Comprehensive planning paradigm has come under attack. The Liberal Political Science Critique rightly criticized both the rationality and the comprehensiveness claimed by its adherents, and attempted to develop a methodology for the perceived incremental reality of planning activity (Lindblom, 1959) as a correct criticism but somewhat of a cop-out as a viable alternative approach.

A more meaningful breakthrough came about during the 1960s as a result of immense social unrest in the U.S. The focus of the upheaval was socially and racially based, but the twin planning issues revolved largely around deteriorating inner city areas, the corresponding inequity and ineffectiveness of then-current urban renewal programs as championed by Paul Davidoff, and the destruction of existing heterogenous neighborhoods and community fabric (Jacobs, 1961).
Additional, rather short-lived input came from the Learning Theorists (Friedmann, 1966, 1973, 1974) and the Neo-Marxists whose respective theories were either too esoteric to be of universal value or simply counter-productive. Both however, added to or modified to some degree, the awareness of planners of the general inadequacy of their approach to societal need and how to achieve solutions.

Up until the last decade, the planners' physical response to societal need had been caught up in the continued centrifugal forms of suburbanizing the cities as the major form of growth acceptable to mass society. What efforts were directed at the centripetal side of urbanization were generally under the control of the private sector, and planning input was often restricted to the cosmetic and superficial.

1.6 New Decentralism

The North American recession of the 1980s has brought a new response to planning, a response that is almost entirely counter to the desires of the profession. The New Decentralism is a two-pronged approach to planning whereby, on the one hand, the neo-conservative rejuvenated but perhaps unjustified faith in the marketplace reduces planners to mere servant-technicians, and, on the other hand, the planning-suspicious and self-management bent of the general public reduces their role to that of support-advisors, if and when required.

The built environment no longer expands mindlessly outward, but is now rather more concerned with conservation, preservation, and infilling the existing infrastructure. This is not the result of a change of heart on the part of either consumer or producer, but rather is simple expediency resulting from lack of resources to continue the previous trends.
1.7 A Planning Critique

The concept of planning has two distinct, though complementary, meanings. In its technical sense, it may be thought of as a process occurring in the borderland between politics and management which attempts to render decisions concerning the ends and means of large organizations more rational. Alternatively, it may be said to be that process which leads to the definition and classification of organizational goals and their reduction to specific programs and courses of action. In its second and ideological sense, planning may be seen as a means for achieving a measure of self-direction in the evolution of a social system: it is a means for gaining a substantial measure of mastery over man's destiny. The utopian element in human thought has fastened on to planning as its particular vehicle and method of expression. (Friedmann, 1966)

The beauty of Friedmann's description is that it encompasses, in one paragraph, the complete range of activities falling within the broad spectrum of possible planning activity. As Friedmann elaborates at a later date (1973), planning occurs on a time-scale which ranges from the past through to the distant future, although what one conventionally thinks of as planning usually falls into the recent past and near future, where emphasis is placed on current research and speedy implementation. The recent global trend toward conservatism and a rejuvenated faith in free market principles is tending to limit further the activity of public sector planners, and to revise their present sphere of influence.

In addressing the basis for concern, it is suggested that the first reason lies partially in the area of performance: planners are more than willing to assume responsibility, yet there is nothing like an imperfect track record to foster doubt on the part of non-planners, and a corresponding insecurity within the profession. By the nature of planning activity, occasional mistakes, well-intentioned are highly visible and of major, long-lasting impact.

While the overall contribution of planning is unarguably positive, criticism is easily levied at specific projects and occasional trends (Fishman, 1980; Kiernan, 1982). One
has only to look at the planning oeuvre of this century to see how a credibility gap could have materialized. Obvious examples spring too readily to mind: the urban renewal and slum clearance programs of the 1950s and 1960s; the post-War suburbanization of the North American city; central city decay, gentrification, traffic congestion, urban pollution and homelessness. These are all societal concerns which directly or indirectly can be seen to fall within the purview of planning responsibility. As society and its problems grow in ever-increasing complexity, planners sometimes appear to the lay person to be using old solutions for new problems.

The second reason for concern lies in the generalist nature of the profession. Planning has existed as widespread organized professional activity for a mere hundred years or so. As such, it is still somewhat embryonic, at least in comparison with other traditional professions such as law, engineering, medicine and education. Understandably, planners have evolved through varying contextual situations during this century by a flexibility of response to socio-economic circumstances. Unfortunately, this flexibility has on occasion been carried to excess. In reviewing attempts to model the profession along the lines of more established activities and carve out a turf, perhaps planners cannot help but project, from time to time, a perception of self-doubt to both public and private sectors.

Over the past several decades, planners have variously assumed the roles of architects, engineers, philosophers, sociologists, politicians, scientists, lawyers, and the military. A review of Clyde Weaver's article (1984) will roughly put these categories into the historic perspective of Experiential Holism, Utopian Socialism, Scientific Conjuncture, Rational Comprehensiveness, Advocacy and Pluralism and Neo-decentralism (See Figure 1). Friedmann (1966) earlier caught some of this mood in describing the planners' role as neither sociologist, nor geographer, nor architect, nor transportation engineer, nor economist, nor budget expert, but rather some sort of team-animal with certain
generalized knowledge and an ability to direct and co-ordinate the specialized knowledge of other experts. It is perhaps not surprising that society is reluctant to categorically give greater endorsement to a profession whose niche is so difficult to define and to understand.

The third reason for concern and the primary subject of this thesis lies in the area of ideology (See for example Alexander, 1984; Friedmann, 1966; Mumford, 1922; Plattel, 1972). Referring again to the second element of Friedmann's previously-quoted definition of planning, planners sometimes seem to have ignored planning's full potential and, hence, the responsibility implicit therein. This has been understandable for the most part: lack of knowledge, attempts to establish solid credentials, necessary expediency, or just plain fear of ridicule. It could be, however, that this element is a fundamental and strategic mistake. There is a wealth of literature on the subject of society's need to lift its head from the absorption of day-to-day solving of crises, to reaffirm and reassess its cultural values, and to search for alternative directions as the contemporary ideology shows signs of deterioration. The nature of planning is such that it can and should be at the very forefront of this search. This second, ideological aspect of planning is crucial but has been inherently problematic; it is, however, an aspect that may be readily addressed.

Planning is, by definition, a formalized future-oriented activity. At the level of physical planning, the focus is on the built environment and on the determinants of form for urban areas, due to the historic trend towards urbanization. Because buildings, roads, and services have lifespans which are measured in decades, planning decisions regarding their nature, location, size, and configuration are necessarily long- as well as short-range. The fundamental difficulty inherent in physical planning, however, lies in attempting to estimate the quantitative and qualitative needs of society ten, 20, or 100 years in the future. While it is not within the scope of this thesis to address
such a large and onerous issue, this thesis does suggest that one component of planning's arsenal must include an enhanced capacity for goal-generating, or, more realistically, direction-establishing. Further, this thesis submits that the formulation of alternative scenarios is mandatory in long-range decision-making about how society is to be facilitated in the future.

The reality of planning practice, however, is that it is often limited to short-term, conservative, and incremental activity. Lacking a necessary and meaningful capability for modeling alternatives, planning, where it does have impact often seems to succeed primarily in extrapolating the status quo. Its role is in danger of becoming that of administrator and facilitator; its future-oriented ability is severely curtailed by a possible timidity on the part of the planning profession to offer wilder imagination and innovative ideas sufficient to combat the current neo-conservative stranglehold on most, if not all, aspects of the urban future. Returning to this section's opening quotation, the emphasis on the technical sense of planning seems to be obfuscating its ideological sense.

If there is one thing to be learned from the past, it is that change is the only constant. Planning, however, deals with the future. To plan intelligently for the future, one must have some sort of vision of what that future could or should be. To approach planning otherwise is either to extrapolate the present condition or be resigned to an everlasting series of incremental actions. While in some instances extrapolation and incrementalism are desirable and even necessary, even these facilitative and expeditious approaches to planning are carried out within a framework, explicit or not, of some anticipated future condition. Put more bluntly, to "not plan" is a decision to produce an unplanned future.

The present planning profession requires heightened legitimacy. In this frame of
mind the predominant planning attitude is conservative and somewhat understandably nervous of any talk of "vision"; it is difficult to stray from the rational and the quantifiable. In its zeal to become increasingly objective in its approach, it may be in growing danger of throwing out the baby with the bathwater. The thrust of this discussion, however, is toward a balance between the objective and rational "science" of planning and the subjective and intuitive "art" of planning. In the case of physical planning, the experiential utopian examples of the past have exemplified vision, albeit many of them at the expense of substance. Their overall contribution to present built form, however, is surprisingly significant. It seems that the planning profession could learn more from the past and, now more than ever, find a way of constructively and productively harnessing this creative energy.

However, planning has too often been in the position of correcting mistakes after they have happened rather than in the position of detecting and removing trouble spots before they lead to major mistakes. I therefore recommend that the planning agency submit a quarterly or other periodic report to the local chief executive alerting the community of danger signs...the planning agency should thus perpetually scan the community for indications of maladjustment...to be effective the planning agency's pulse-taking report must not only alert the community to trouble spots, but must also point to remedial action.

2.0 UTOPIAN DESIGN OVERVIEW

"(There are) many factors which have contributed to destroying the market for utopian thinking in America."
- David Reisman, 1947, p. 178

"Strategic planning is worthless - unless there is first a strategic vision."
- John Naisbitt, 1982, p. 94

"It is Polak’s contention (in his The Image of the Future) that the capacity to image the future is a core capacity in any culture that is manifested in every aspect of that culture...but Polak points out that the utopian and eschatalogical modes are symbiotic, and either without the other goes into decline."
- Elise Boulding, 1961, pp. 434-5

"We need more vivid utopias."
- Margaret Mead, 1937, p. 958

"Renewed interest in the design and more importantly in the visionary aspects of planning the physical environment should be seen in the context of a general rekindling of interest in the subjective and intuitive. Insight, personal knowledge and the accidental have all returned to the fore."
- Michael Seelig, 1984, p. 2

"...Klages wants scientific rationality in the investigation of the future to be enlarged in the direction of the imagination and concrete utopia."
- Martin Plattel, 1972, p. 39

2.1 Introduction

The word "utopia" has acquired negative connotation over the years. It is therefore felt necessary to set the stage for this discussion with the context so often referred to in the relevant literature: Karl Mannheim’s (1936) distinction between ideology and utopia. As ably elucidated by John Friedmann (1973, pp. 120 – 21), the former trusts in the gradual unfolding of the possibilities inherent in an established system of order (political, economic, social, and cultural). It takes for granted that the system, however imperfect, can be brought closer to its
ideal form. As a result, ideological thinking is basically reformist. It does not challenge the system's structural relations, but seeks only to modify some of their effects.

Utopian thinking, on the other hand, seeks to overthrow the existing system of order in favour of a different one. It is, however, subject to the inherent contradiction that, once realized, utopian thought becomes the new ideology, and, thus, the successful revolutionary becomes conservative. Most germane to the thrust of this thesis are Friedmann's concluding remarks on the subject:

Utopian thinking is, therefore, effective only when it occurs within the matrix of the society it rejects, it can never become an action orientation in its own right. The foundation of practical action has always been ideology, while utopian thinking has served as leavening in the process of perfecting a given social system.

There is a vast body of literature on the subject of utopian thought which reinforces the notion that there is not only a validity and usefulness to this activity, but a necessity as well. The overwhelming consensus, however, is that to optimize the effectiveness of this approach requires an integration within the wider framework of the mainstream planning paradigm. Thus, the above comment effectively sums up the prevailing attitude (See, for example Boulding, 1961; Hall, 1983; Holloway, 1984; Mead, 1957; Morrison, 1984; Rowe, 1978; and Simecka, 1984).

In this vein, the emerging direction of this thesis is that present planning activity should include a formal capacity for utopian design-modeling (Hall, 1984; Lynch, 1981; Meyerson, 1961; and Reiner, 1967). More specifically, Plattel (1972) proposes a structure whereby: (1) prognosis extrapolates present trends via projection techniques, and proposes alternative directions for consideration; (2) utopian design examines and illustrates these alternatives for their potential multi-dimensional implications, and submits them for testing; and (3) development then implements, or facilitates
The basic significance of utopian designs for ideal communities occurs on three levels: criticism, methodology, and physical form. Criticism is useful in helping to define and prioritize existing problems of the built environment, and in presenting extrapolation of and alternatives to the potential implications of present societal trends. The actual process of utopian design is of value in understanding the clear relationship and translation of values into built-form, and can contribute to the modern planning process by balancing a present tendency to a narrowing of perspective rather than a broadening of it. Spatial alternatives generated by utopian designers are fascinating glimpses into future settlement form and patterns, and suggest a wealth of potential physical response to the growing complexities of societal issues. Said response can enhance or impede in direct proportion to the amount of serious attention and energy devoted to planning as a future-oriented rather than merely reactive, facilitative, or administrative activity.

As previously posited, the works of early utopian designers such as Howard, Le Corbusier, and Wright have made serious impressions on their contemporary and subsequent built environments. Much of the physical forms and elements developed during the first half of this century have found their way into the vernacular of the present approach to the development of human settlements, particularly on the North American continent. This thesis extrapolates this notion in hypothesizing that the effects of recent utopian design thought will be increasingly felt to the point that the designs reviewed may provide significant clues as to the nature of our built future.

Utopian design, in the context of physical planning, is concerned with the generating of hypothetical, idealized communities by individuals who wish either to explore extrapolations of societal aspects which they perceive to be of increasing significance,
or to generate alternative scenarios to their contemporary contexts for reasons of dissatisfaction with that context. While there exists significant historic precedent for this approach, dating back thousands of years, it is the intention here to focus on an overview of utopian design since the turn of this century, and to confine this development to its impact on physical planning in the cultural, geographic, and socio-economic context of North America.

Utopian design, or the "planning of ideal communities" to use Reiner's phrase, is typically concerned with six elements: physical form, land use, socio-economics, nature, circulation, and future growth. Physical form deals with the spatial organization and three-dimensional configuration of the built environment; land use deals with the degree of separation of different activities, their size, scale, and interaction; socio-economics deals with the issue of equity and hierarchy, albeit generally at a most conceptual level; nature deals with the site and the use, integration, and impact on the natural environment; circulation deals with the movement of people, information, goods and services, and their interrelationships; and future growth deals with expansion of the concept as it is implemented, and develops and evolves from its initial stages (See Figure 3).

This thesis maintains that utopian design concepts are not merely flights of pure fancy, but, on the contrary, are serious and sincere inquiries into alternatives and options for future consideration; it turns out that they are the basis for much of the form and elements of modern physical planning and, as such, have a major responsibility for much of today's built environment. It is important to recognize also that the nature of the physical design of the environment is such that it requires enormous lead-time for conceptual approaches to manifest themselves in everyday practice. Thus, the utopian designs of earlier decades provided many important clues as to what variety of forms were to evolve in subsequent urban development, for, even given the same
Figure 3 - Utopian Design Approach

(Reiner, 1963)
problem-context, it is astonishing to see the wide differences of response the utopian approach can generate.

For example, though such utopian designers as Howard, Le Corbusier, and Wright were each inspired by the strongest of similar sentiments against the city of his day, each developed an alternative response in the most fundamentally opposed directions possible. At one extreme, we have the "Contemporary City", a city of order, commerce, and socio-economic hierarchy, intrinsically unified by landscaping and made possible by state-of-the-art technology. At the other extreme, we have the "Broadacre City", a city of individuals and equity, founded upon the building blocks of the family home and the automobile, and structured within the grid of decentralized institutions. Midway between, we have the "Garden City", a blending of town and country, within an improved framework of social, economic, and political balance.

It takes little imagination to relate these three approaches, and their combinations and permutations, to the contemporary North American city, with its complete environmental range from inner city core to outer suburban sprawl.

A review of recent utopian design, specifically Archigram's "Plug-in City", Doxiadis' "Entopia", and Soleri's "Arcology", suggests issues that may be coming under increasing scrutiny in the decades ahead if the present urbanization trend and global population growth continues. "Plug-in City" illustrates the concept of a technologically-enhanced flexibility of future urban form response to changing societal demand; "Entopia" provides a rationally structured framework which addresses a hierarchy of spatial relationships for a global society within the context of continued megalopolitan expansion; and "Arcology" is a combined architectural-ecological approach to the densification of urban areas by compaction, integration and utilization of the third (vertical) dimension of built-form at an unprecedented and almost unimaginable scale.
It is reasonable to assume, or at least to propose some cautious extrapolation, that ideas being put forth now, extremist as they might presently appear, might provide some directions for exploration by which we may anticipate and approach the problems of the design of our environment in the future (See Figure 4).
Figure 4 - Physical Planning Evolution
3. **CASE STUDIES – Early Utopian Design**

"Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans: aim high in hope and work, remembering that a noble, logical diagram, once recorded, will never die, but long after we are gone will be a living thing, asserting itself with ever growing insistency."
- Daniel Burnham, c. 1900

"Since utopia is something perhaps by now ingrained...it cannot, and should not, be something wholly made to go away. A political absurdity, it might remain a psychological necessity. Which, translated into architectural terms, could be a statement concerning the ideal city – for the most part physically insufferable, but often valuable to the degree that it may involve some kind of dimly perceived conceptual necessity."
- Colin Rowe, 1978, p. 125

"If the story of utopia throws any light upon the story of mankind it is this: our utopias have been pitifully weak and inadequate; and if they have not exercised enough practical influence upon the course of affairs, it is because, as Viola Paget says in Gospels of Anarchy, they were simply not good enough."
- Lewis Mumford, 1922, pp. 25-6

"These lists make only the obvious point that as a result of the long-term trends toward accumulation of scientific and technological knowledge and the institutionalization of change through research, development, innovation, and diffusion, many important new things are likely to happen in the next few decades. It is worth asking specifically what the consequences of each item – and their synergistic interactions – might be."
- Herman Kahn, 1967, p. 51-57

3.1 **Introduction**

Le Corbusier, Howard, and Wright shared a common dislike for the urban environments of their time. Each was revolted by the wretched living conditions brought about by the excesses of the Industrial Revolution; each believed in the triumph of emerging technology as supportive of new capabilities for society; and each anticipated a massive and constructive social upheaval resulting in a freer age. They offered, as response, however, three radically different proposals for the planning of new cities, designed
around themes of centralization, moderate decentralization, and extreme decentralization respectively (Fishman, 1977).

3.2 **Garden City**

Howard's Garden City proposal of 1898, subsequently built as Letchworth and Welwyn in England, is manifested in a moderately decentralized series of economically and industrially self-contained satellite towns, separated by greenbelts, and interconnected by road, rail, and canal. Each town accommodates approximately 32,000 inhabitants, and is radially structured from a central park which contains the civic core facilities. Landscaped areas play an important role in this town-country fusion, and act to separate residential, industrial, and agricultural land uses, as well as to provide pedestrian access throughout. The density is low, about eight units per acre, and the emphasis is on an enhanced sense of neighborhood and overall community scale (See Figures 5 and 6).

Howard's contribution to planning is immeasurable: he is generally recognized as being instrumental in the formalizing of planning as a professional activity in Western society; his approach to comprehensive land use planning, zoning, and the decentralization of urban areas has had substantial impact on subsequent trends of urban settlement patterns both in Europe and North America. His concern with optimal size and scale of the neighborhood has proven to be a planning focus ever since, as evidenced by the work of Mumford, Perry, Stein, Osborn, Abercrombie and Tugwell.

"It was his unique synthesis of former proposals, and in particular, the astonishing simplicity and range of detail that made in one stroke seemingly idealized and impractical schemes realizable within the contemporary political and social context. Howard's intuitive grasp of his own society was so great as to confer on him the power to bring a revolutionary concept out of the realm of idea and into the realm of material realization."

- P. Batchelor, 1969, p. 185
One slice of the circular pie. A typical ward and the center of the Garden City. From Garden Cities of To-morrow, (1902).

Figure 5

Garden City Concept

Letchworth cottages for the working class, designed by Parker and Unwin to express the Garden City philosophy. From *Letchworth Garden City in Fifty-Five Pictures*, (1911).

Figure 6
Garden City
Detail
Howard's contribution to planning is on three levels: the first is to do with the formalizing of planning as professional activity; the second is to do with planning as a large-scale, regional operation involving not just physical issues, but economic and social ones as well; and the third is an approach to decentralized physical planning that has formed much of the basis of urban settlement patterns in North America for well over half a century.

As a result of his efforts in trying to establish his first Garden City, Howard eventually evolved into the position of founding father of the British Town and Country Planning Association. Planning, as formal, organized activity, was promulgated in Britain by the likes of Frederick Osborn who was instrumental in structuring the New Towns Act of 1946. In the U.S.A., Lewis Mumford and Patrick Geddes helped shape early planning thought and organization, while in Canada Thomas Adams and Thomas Horsfall led the country in similar activity. All were enthusiastic about Howard's town-and-country concept, and all were keen to further the cause of planning legitimacy.

Planning as coordinated action on many fronts, in addition to its physical component and as large-scale endeavour, seems to have first appeared in North America in a major way during the Resettlement Administration of Franklin Roosevelt with Rexford Guy Tugwell's Greenbelt Town Program. Resembling the thinking of Howard in terms of physical principles but with the added refinement of Perry's Neighborhood Unit, the Greenbelt Towns were designed as dependent satellites of the major cities, rather than autonomous but linked self-sustaining communities. In Canada, the first such planning effort on a national scale was not to appear until the Wartime Housing Program during World War II; subsequently, Don Mills was developed outside Toronto along town-and-country lines. More recently, the Greater Vancouver Regional District's Regional Town Centre program in like fashion decants the central city to the Lower
Mainland and interconnects the decentralized whole with rapid transit.

It should be noted that these programs were not just attempts to build the necessary new housing and related facilities, but were specifically tailored to provide employment, to form or reawaken the construction industry, and to decentralize settlement patterns beyond the congested central cities to the rural areas.

The notion of Howard's rural cottage as a retreat from the pace of urban life has been continually and considerably watered down beginning with Raymond Unwin, who with Barry Parker, designed the first Garden City and then proceeded to propagate its antithesis, the Hampstead Garden Suburb which was a distinctly service-dormitory suburb adjacent to and dependent on the major urban centre. Attempts to reintroduce the purity of the Garden City idea led Britain to develop a series of self-contained regional centres through its New Town Program. In North America the notion of the centralized city and its outlying dependent suburbs definitely became the predominant form. Now, however, that the sterility of homogeneous residential areas is a recognized characteristic, some of Howard's original premises have been re-examined.

In summary, great attention is being paid to the idea of "community" as envisioned by Howard. Although his population limit of 32,000 persons was never substantiated, the notion of size limits and corresponding scale and scope of infrastructure is a problematic one. Since the Neighborhood Unit's somewhat formula-like approach, the search by planners for the literal and figurative defining of community has been constant. Howard seems to have declared "32,000 is it" and it was built, but today planners are still exploring varying ratios, proportion, and experiments in artificially-induced social mix. He developed Welwyn and Letchworth in the first quarter of this century; they are both thriving centres today. Perhaps planners could
take another look.

### 3.3 Contemporary City

Le Corbusier's Contemporary City proposal of 1922 is manifested in a centralized, high-density, high-rise urban core of commerce and administration, surrounded by medium-density, mid-rise residential development. Radiating outward is an industrial area, buffered from other land uses by greenbelts, which is in turn surrounded by low-density, low-rise residential suburbs. The whole is totally integrated by pedestrian-use landscaped areas, and is served by a relatively sophisticated hierarchical transportation network and central interchange, including accommodation for newly-developing air and automobile technology (See Figures 7 and 8).

One has only to look at any North American city today to see the crude general image of Le Corbusier's early sketches: the high-density, high-rise core of the Central Business District; the adjacent high-density, high-rise central residential area; the surrounding inner city of medium-density, medium height housing and mixed retail-commercial uses; and the outlying residential suburbs. A key part of what has essentially been lost in the translation, however, is the present substitution of roads and parking lots for his original scheme's 95% landscaped pedestrian setting. At a smaller scale, society has also discarded his spacious, two-storey, double-exposure garden apartment buildings with integral social, retail, and recreational amenities.

Other critics, especially city planning theorists such as Jane Jacobs, have faulted Le Corbusier for taking an over-simplistic view of the way the city functions, dividing it up with rigid statistical categories and paying no attention to complex, individual processes. Partly this is a fair criticism but again it misses the richness and wealth of detail which he would develop when actually executing a project.

Jencks, 1973, p. 170
1. Transportation Interchange
2. Core: Administration + Commerce
3. Medium-Density Residential Communities
4. Low-Density Residential Communities
5. Greenbelt (Future Residential Expansion)
6. Countryside
7. Park/Entry (Future Core Expansion)
8. Industry

Figure 7
Contemporary City Concept

(Le Corbusier, 1929)
Figure 8

Contemporary City Image

(Le Corbusier, 1929)
Le Corbusier's vision for a new city form came about at a time when the majority of Paris and most industrialized cities suffered from acute fallout – literally and figuratively – of capitalist excess. His plan, termed "Plan Voisin" after its sponsor was a refinement and proposed test case for the principles of his earlier hypothetical Contemporary City. It was intended to purge the worst of the slum housing, and replace it with clean, modern, spacious dwellings, set in landscaped green space, and serviced by integral schools, daycare, and recreational and social amenities, the likes of which simple did not exist in the rat-infested, disease-ridden, crime-laden, overcrowded ghettos of contemporary Paris. Le Corbusier is much criticized today for this carte blanche "slum clearance" approach when seen in the light of the damage of the U.S. urban renewal efforts of the 1950s and 60s. In a similar vein, much of Hausmann's work in Paris in the mid-nineteenth century has been similarly criticized, yet it is difficult to visit this city and not be impressed by its grand avenues, its monuments, and proportioned facades, and find in contrast the charming scale and texture of the now-quaint and clean alleyways and sidestreets.

Le Corbusier's vision came about at a time when both construction technology and design methodology were simultaneously embarking on the Machine Age which proved to be a half-century of new ideas, breakthroughs, discoveries, innovation: high-rise towers, elevators, reinforced concrete and steel, and the glass curtain-wall; air travel and the automobile; the Bauhaus movement, the International Style, CIAM, Town Planning Associations and modern art.

Le Corbusier designed, first of all, not just a hypothetical city, but an entire urban region. His ideas encompassed the total spectrum of home-work-play, as well as a complete range of physical components and infrastructure necessary to accommodate them, from central core to rural areas. In very simplified form, his design included a central business area of office towers whose size, height and spacing
permitted 95% of the ground to be landscaped. The modern downtown cores contain lower buildings in much closer proximity, and give over most of the ground to automobiles in the form of roads and parking lots.

In the centre of the core, Le Corbusier positioned, logically enough, the main transportation interchange for air, rail, and road traffic. Though his central airport has been much ridiculed, many cities today have in-town commuter airports including Edmonton, New York, Washington, and Vancouver harbour. Quite coincidentally, the dimensions of Le Corbusier's airport are of appropriate size to nicely accommodate today's de Havilland Dash 8 STOL planes which are presently being accommodated in central London's Docklands Redevelopment.

Le Corbusier's physical designs pre-dated the present "Corporate City", a city of power, business, finance, management, and administration. The grouping of skyscrapers in the heart of the modern city have come to represent the image of a prosperous downtown core. These contemporary cathedrals are the economic heart of modern North American society, a society where money, growth, and power too often solely form the bottom line. Highly visible, this formal expression of the values of those who drive society were earlier expressed quite literally by Le Corbusier back in the 1920s. Where he failed, perhaps, was in lacking the ability to imagine that we would have to build our towers so close together, and give over his landscaped park setting to the automobile.

Le Corbusier designed a pedestrian downtown core, a landscaped park for his office towers, with shops, restaurants, boulevards, seating, and fountains meandering through the grass and trees. The presence of the great towers was felt every several hundred feet or so only when their "pilotis", entrances, and elevator cores met the ground. To get a feeling for this, one must try to imagine a modern downtown with one
50-storey building in the centre of each block, the balance devoted to the pedestrian. For today's downtown pedestrian, many cities attempt to soften their densities, their traffic, and their lack of light and air by introducing pedestrian malls, indoor multi-level shopping concourses, or overhead "plus fifteen" linkages. Many of these are not truly successful, likeable or safe.

Le Corbusier designed a central transportation interchange, where air, road, and rail traffic intersected. Most modern cities have central rail terminals and road networks. Some, like New York, Washington, and Edmonton, have central urban airports; some, like Victoria and Vancouver, have central ferry and seaplane facilities; some, like Toronto, have central highways; some, like Newark-Elizabeth, in the Eastern Seaboard megalopolis, have co-terminal airport, seaport, and highway; London, England, in its Docklands Redevelopment Program, has plans for an STOL strip on the Thames in the heart of the city. It would be interesting to discover if there is any city in the world which has attempted a successful integration of multi-mode transportation in its core as originally envisioned by Le Corbusier.

Le Corbusier designed the central city residential area, where civic leaders, business executives, office staff, and their families would live within walking distance of the office core. He illustrated large, two-storey, double-exposure, spacious-balconied apartments in low-rise, medium-density configuration. Set again in his ever-present landscaped pedestrian park and separated from the offices by green belts, each building cluster would be communally owned and would form a self-contained neighbourhood in terms of integrated convenience shopping, daycare, school, and social and recreational facilities. Today's inner city areas, by contrast, often range instead from wealthy renovated older areas of low density to high-rise, high-density towers, to slum dwellings and cheap apartment-hotels; community facilities can be few and far between, and the automobile pervades all. Vancouver's West End
is a good example of high-rise, high-density living; Calgary's is not. Regardless, it is unquestionable that Le Corbusier's inner city residential areas, as well as the apartment unit design itself, could be a great improvement over many existing such areas.

Le Corbusier not only zoned the different land uses of his hypothetical city, he went to great pains to separate major uses by significant green belts. Greenbelts were used to separate office from residential areas from industrial ones. Some modern cities have developed green belts, it is true, but these are often an attempt to define limits of the city as a whole; future growth generally leapfrogs over them, or they are simply used up as required. Few cities provide green belts to separate industrial areas from residential ones, relying instead on road width and market dynamics to provide "economic buffers".

Le Corbusier embraced technology. He envisioned a new and golden machine age where mass-produced prefabricated housing made decent accommodation affordable to all; he envisioned a complex transportation network, including the automobile, where universal access was provided without sacrificing the pedestrian experience; he envisioned an orderly, clean, efficient city where buildings simultaneously complemented and contrasted with nature; he envisioned possibilities and choices of built form that could range from a sophisticated central core to a rustic rural setting; in short, a total urban region.

His influence on his contemporaries and on subsequent generations of decision-makers, developers, planners and architects is significant. Through the seminal Congres Internationaux d'Architecture Moderne (CIAM) Le Corbusier influenced vast numbers of planners, urbanists and architects. CIAM's Athens Charter of 1933 set the stage for the continuation of Bauhaus thought into the newly-emerging International Style
of thinking on urban planning, architecture and the arts which was to become the dominant paradigm for a quarter of a century. Le Corbusier's influence can be found in the work of Candilis' Stem Approach and Tange's Tokyo Bay City. Homage is paid to Le Corbusier in Archigram's Plug-In City and in Soleri's Arcology. Examples of indirect influence can be found in the then-new capital of Brazil, Brasilia, as well as in many of the early London County Council Estates in England such as Roehampton.

Though his ideas were sometimes rigid and his approach to physical planning extreme, it must be remembered that, like Howard's disclaimer "Diagram Only", his Contemporary City was to be an organizational framework within which individual elements would be sensitively and appropriately designed for their specific purpose and to complement the whole.

3.4 Broadacre City

Wright's Broadacre City proposal of 1932 is a low-density, maximum of one unit per acre, agro-suburban, totally decentralized proposal based on the family unit, the single-family house, and the automobile. Linked by a super-grid of highways, the central city no longer exists, but is replaced by periodic highway-intersection groupings of industry, commerce, and community-support facilities (See Figures 9 and 10).

It would not be difficult to relate Wright's vision of a totally decentralized society dependent upon private automobile transportation to today's suburban expansion of the modern North American city. What is unfortunate, however, is that in the "Levittown" process of suburbanization, Wright's original ideas have become diluted to the extent of mass-produced tract houses on tiny plots of land, served by the visual blight of strip retail centres, and penalized by increased travel time and the associated
Figure 9
Broadacre City Concept
Quadruple housing, exterior plan.

Figure 10
Broadacre City
Detail
rising costs of endless supportive transportation and servicing infrastructure. The resultant out-migration from inner city to suburb since World War II has brought with it not Wright's dream of independence and self-sufficiency in harmony with nature, but rather a total and utter disregard for efficient land use, and a corresponding commitment to commuterism.

"No curb was ever set on the vision and powers of the American genius; his achievements, disturbing as are those of every original artist, may be expected to seem more amazing and more rewarding as generations learn to understand them by living with them."
- Frank Lloyd Wright, 1961, p. 283

Frank Lloyd Wright's utopian vision was made possible by the private automobile. With the independence, mobility, and freedom it offered, one no longer needed the city in its traditional sense. It would be interesting to see how he would respond to the great decentralizer of today - the personal computer.

Wright's Broadacre City was a design that was quintessential America. It makes visible the Jeffersonian principles of individuality and autonomy in an extreme approach to decentralization which nullifies the very existence of the city. Wright, a precursor of Buckminster Fuller's sentiments of urban obsolescence, gave form to the American dream, a dream manifest in subsequent decades of continuous suburbanization throughout the continent. In all fairness, one must bear in mind that, at the time of Broadacre City's conception, the entire population of the U.S. could have been housed in an area approximately the size of the State of Texas.

The residential cliche of today has become the family in its suburban bungalow on its tiny lot on its featureless street with its car: Levittown. So-called "community" and "neighborhood" aspects are sporadically dispersed in the form of schools, recreation centres, strip convenience shops, and the regional mall. There is everything wrong with this stereotype from a planning, architectural, landscaping, economic, and social
point of view except for one thing: it seems to make many people happy. The hours spent commuting, the anonymity, the enormous cost of house ownership in time and money are all sacrifices willingly made, it seems, so that the family unit can enjoy its intangible sense of ownership, its delusions of independence, and its illusion of living in the countryside. In short, all the perceived physical elements of Wright's dream.

Wright, however, was devastated at the variations and permutations of his original vision. Where he had designed organic houses, integrated with nature, brimming with light, air, and space, yet cosily secure about the central hearth, we have built boxes with holes in them. Where he designed subdivisions based on a one-acre farm per family, we have chopped up the land into miniscule lots where the major fresh-air activities revolve around mowing lawns, barbecuing, and washing cars. Where he designed motels, shops, markets, industrial parks, civic centres, schools, and office buildings as individual, graceful pieces of architecture set into landscaped parks, we have developed billboards, strip centres, parking lots, signs, and chain link fencing.

Wright rejected the city of his day, as do so many people today. His city was really the physical manifestation of the typical immigrant's desire for a fresh start. Yet, rather than follow Wright's approach to the farm-home-car concept, where agricultural land would, by definition, coexist with the single-family house, we have, since World War II, systematically jammed houses together and marched them ever outward from the central city, destroying farmland and the natural countryside in the process, thereby missing the whole point of the idea of so-called "country living".

If, then, country living is not in fact the object of the exercise, but merely an illusion, or an alternative environment to denser apartment or townhouse accommodation closer to the heart of the city, then one must wonder why, once one is in a car and on the highway, whether one could not have used the land more wisely and built the housing...
on land less suitable for agriculture; perhaps leapfrogging existing farmland, or building on hillier or dryer or wetter terrain.

The suburbs that have been developed over the past 30 years or so are the grim reality of a bastardized Broadacre City; the perversion of a pure ideal. However, while the houses are not particularly well-designed, the lots are certainly less than an acre in size, and the automobile reliance has escalated beyond Wright's wildest imagination, the essence still exists. For most, it is a close to a realized populist utopia.

Wright's influence on his contemporaries and successors is significant. Although his body of work as an architect has influenced Japan, Europe and North America through his prolific buildings, travel, writings, lectures and exhibitions, his major impact has unquestionably been the legacy of the single-family house and its inherent prerequisite for suburbanization. His ideas on recognizing and reinforcing the centrifugal effect of the automobile led him to advanced designs for highway layouts and cloverleaf interchanges. He was at the forefront on concepts such as strip retail development, motels and decentralized authority in the form of small-scale civic centres, churches and schools.

On the surface, it is ironic that Soleri, of mega-megastructural bent, a former student of Wright, acknowledges his debt to the master. However the acknowledgement is rather in a sharing of Wright's respect for the natural environment. But where Wright preferred a building integrated with the landscape, Soleri prefers an unspoiled environment with widely dispersed densely compact mega-cities.

3.5 Discussion

The point of this section of the thesis is not to imply that Howard, Le Corbusier,
and Wright explicitly invented our present built environment. Rather, what is being suggested is that their work has had considerable impact on the thinking and approach of subsequent leaders of society, developers, planners, architects and the general public in forming and shaping European and North American urban settlement patterns. The fact is that these three utopian visionaries are widely recognized as being among the forefront in addressing certain issues and trends of urbanization in this century, and in articulating their vastly disparate ideas in powerful graphic and written form.

Fortunately, their most authoritarian and restrictive notions have been softened in subsequent development and planning implementation; unfortunately, much has been lost in the process.
4. CASE STUDIES – Recent Utopian Design

"Nevertheless, at the minimum such studies, even if only partially successful, contribute to interesting lectures, provocative teaching, and stimulating conversation, all of which can broaden horizons and increase creativity—by no means negligible benefits. More important, these studies can affect basic beliefs, assumptions, and emphases. Probably most important, at least for us at Hudson Institute, is that long-range studies, provide a context in which to do five- and ten-year studies that can and do influence policy choices."
- Herman Kahn, 1967, p. 1

"The utopian imagination is born from man's desire to bring about his own happiness by his own creative endeavours. Utopian thought is essentially humanistic insofar as it implies an act of faith in man and doesn't start from the premise that man's life is immutably fixed."
- Martin Plattel, 1972, p. 26

"As Polak says (in his The Image of the Future), most features of social design in contemporary western society were first figments of a utopia-writer's imagination."
- Elise Boulding, 1961, p. 434

"City planning, in portraying a future state of affairs, tries to link economic and social policy with physical design...the two separate traditions of utopia, that of artifact and that of institutions, can simultaneously be drawn upon for this objective. By developing alternative utopias of the community...city planning would not remove the element of caricature...it would give the element meaning."
- Martin Meyerson, 1961, p. 183

4.1 Introduction

Archigram, Doxiadis, and Soleri share their predecessors' disappointment in society's squandering of resources, and with the inefficiencies and inequities of modern urban life—a environment which has been influenced only by the modified superficialities of earlier visions, variations and permutations of the utopian ideas which were generated in the first third of this century. Their work is of recent vintage—the 1960s and 70s—with Soleri and individual members of the Archigram group still active. These three have been chosen as representative of the period, in addition to the fact that all three are widely known in the field of physical planning. The analytical format used follows
that developed by Reiner (1963).

4.2 Plug-in City

Archigram's Plug-in City proposal of 1964 is a hi-tech structural and service framework where various functional-spatial modules are added or subtracted, depending on changes in demand, flexibility of life-style, or response to developing and changing "pressure zones" of settlement patterns. The scheme is adaptable, in whole or in part, to numerous contextual situations - infill, on land or water, fixed or moving, local or continental - and is highly and consciously visually expressive of both its form and its elements (See Figures 11 and 12).

The imagery of Archigram as flippant "techno-freaks" is unfortunate, and detracts from their message, which is essentially to use technology as society-supportive rather than society-determining, harkening back explicitly to earlier notions of Le Corbusier's attitude and hopes. Rather than continuing the trend of developing new products merely to increase markets, it might be refreshing to see more meaningful societal needs being responded to.

"With reference to the master (Le Corbusier), a house is an appliance for carrying with you, the city is a machine for plugging into."
- Archigram, 1972

4.2.1 Context of Proposal

The primary members of the Archigram Group are Peter Cook, Warren Chalk, Dennis Crompton, David Greene, Ron Herron, and Mike Webb. Archigram appeared in England in the mid 1960s and flourished as a group for about ten years during which time they challenged the planning and design Establishment as complacent and irrelevant in its perceived pursuit of the status quo, rather than embracing state-of-the-art
Figure 11
Plug-in City
Concept
Figure 12
Plug-in City Detail
(Cook, 1972)
technology to serve the more serious changing needs of society. Inspired by the contemporary U.S. space program and in response to the mass pop-youth-culture phenomena rampant in Europe and North America at the time, Archigram explored a theme of mass-production, disposability, mobility, and planned obsolescence.

4.2.2 Summary of Proposal

Representative of Archigram's work is the concept of the Plug-in City, with numerous variations on the form and individual components thereof. This is essentially a hi-tech structure and service framework into which are introduced a variety of functional module. The whole or parts of the whole are responsive to changes in demand, location, and time-frame. Adaptable to a variety of contextual circumstances - infill or original, land- or water-based, fixed or moving, personal scale or continental - the approach is strong in image as well as in substance.

4.2.3 Content Analysis - Assumptions

A product of the cultural wave of the mid to late 1960s and the corresponding emphasis on youth and mobility in Europe and North America, Archigram's work reflects notions of self-determination and increased flexibility in its approach. The Plug-in concept is predicated on the somewhat naive but refreshing belief that the changes in the societal paradigm were structural, and that the attitude toward the built environment should be likewise rethought. Perversely, however, their megastructural approach relies heavily on overall authoritarian control for implementation and revolution in the construction industry.
4.2.4 Content Analysis - Form

The elements of Plug-in City are that of megastructure and infill components: an integrated structural, service, and circulation system which accommodates various functional-spatial modules for housing, shops, offices, schools and factories. The whole is adaptable, open-ended, and depends upon location-specific programmed requirements for its overall form. Generally linear and connective, the system responds to a range of site-specific needs or to developmental "pressure zones" on a regional or even continental basis.

Visual form is also considered an integral element in that the machine-aesthetic permeates and is reinforced by the presence of permanent cranes which locate and relocate capsules, and which construct and dismantle the whole or parts as required.

4.2.5 Content Analysis - Circulation

The circulation system for people, information, goods and services is totally interconnected throughout, which is appropriate to Archigram's premise of instant flexibility and enhanced mobility. At a conceptual level, the illustrative graphics indicate a proliferation of tubes, pipes, and circuits, visual reinforcement of the circulation system and its substantive and perceived importance.

4.2.6 Content Analysis - Population

Archigram's approach is entirely conceptual; it embodies an attitude toward the development of the built environment rather than a specific project. As such, population figures are unspecified, varying with the proposed application. Continuous change in population and demographics, however, are assumed.
4.2.7 Content Analysis – Density

Density, like population, is left to future considerations of specific application. Judging from the accompanying graphics, however, it is apparent that although a range of densities may be accommodated, a generally high, typically central-urban density is anticipated.

4.2.8 Content Analysis – Consideration of Future Growth

Generally open-ended and flexible of response, the Plug-In concept does recognize a need for future change in terms of planned obsolescence of the system.

Typical "permanence ratings" are suggested as follows:
- bathroom, kitchen, living room floor: 3 years
- living rooms, bedrooms: 5-8 years
- location of house unit: 15 years duration
- immediate-use sales space in shop: 6 months
- shopping location: 3-6 years
- workplaces, computers, etc.: 4 years
- car sites and pads: 20 years
- main megastructure: 40 years

4.2.9 Evaluation

The major contribution of Archigram’s Plug-In City is one of attitude and approach, and a fresh enthusiasm for the development of the built environment. Substantively related to Le Corbusier’s respect for technology as adaptable and responsive to changing societal needs, Archigram generally ignores traditional concerns for fundamental
human concerns and develops instead a mechanical kit of parts to serve a somewhat isolated and identifiable fringe aspect of cultural aberration: mobility, flexibility, impermanence, and self-determined freedom. Values and objectives are stated in these terms, and their direct translation into physical reality is Archigram's exercise. The group eschews all established considerations of form, hierarchy and respect for existing built form and institutions, and creates a new, parallel "system" for the city.

If one looks beyond the graphics of Archigram's work, they really offer but two new notions: the rate at which change can take place within a city, as reflected in the basic concept of "plug-in", and the introduction of the multi-tiered ground plane as the physical support for spatial units. While both notions are extremist relative to our present context, both exist to varying degrees. Further, it requires little advancement of certain present trends to approach Archigram's concepts more closely.

Essentially, any city physically consists of land, built form and infrastructure; Archigram goes one further by introducing, as with any megastructural approach, more levels of land, portable built form, and more flexible infrastructure. They differ radically from Soleri's Arcology in their notion of faster change and open-endedness. A closer modern parallel is found in the mobile-recreational field where trailers and motorhomes continuously criss-cross the continent by the hundreds of thousands, often in vast convoys. Arriving at an RV campground, these otherwise self-contained, often air-conditioned luxury living "capsules" simply plug in to sewer, water, power, cable TV, and telephone jacks. While this is hardly a new phenomenon, the units and their host facilities are continually reaching new levels of sophistication, size, and number. For an almost literal adaptation of Archigram's approach, however, one need look no further than the University of Winnipeg. Located in the downtown core, a major expansion took place in the late 1960s whereby a megastructural form was introduced between and over existing older buildings, an overall result which required
no further land acquisition, yet approximately doubled the university's size.

If one expands one's thinking to the growing variety in lifestyles and living accommodation practices in North America, one can even reconcile Archigram's extreme city-scale approach with current trends of add-on "Granny flats", time-share resort condominiums, and the business commuter/convenience orientation of many hotel chains and travel services.

4.3 Entopia

Doxiadis' Entopia proposal of 1966 is a socio-spatial hierarchy concomitant with an ultimate and continuous global settlement of some 32 billion people. It is totally interconnected physically as well as by means of coordinated, coterminal multi-mode transportation networks. Entopia represents the maximum capacity of this planet, with equal thirds of its habitable surface devoted to settlement, agriculture, and nature-recreation respectively. Inherent in this scheme is his discussion of open-ended urban core areas "Dynapolis", which would allow for future change and expansion (See Figures 13 and 14).

Central to Doxiadis' approach is attention to the three present trends of unlimited megalopolitan growth, the deterioration and decay of the central city, and third world population expansion and development. His response, unlike that of many utopians, is less rigidly physical or authoritarian, but rather is framed in general principles of such spatial and societal considerations as equitable and efficient redistribution of resources, and the size, scale, and interrelationships between individuals, neighborhoods, and cities.
Figure 13

Entopia Concept

(Doxiadis, 1966)
Figure 14
Entopia Scale Framework

(Doxiadis, 1966)
"I don't pity the poet left without a public, but any public left without a poet."
- Odysseas Elytis, a Greek poet, quoted in Doxiadis (1966).

4.3.1 Context of Proposal

Doxiadis is concerned with global disparity and inequity, as well as the waste and over-consumption of post-industrial nations at the expense of newly-developing areas. He and his associates have evolved a global organization which is focussed on "Ekistics" - the study of human settlements - which breaks down into five basic elements: Anthropos (human beings), Nature, Shells (the built environment), Society, and Networks (transportation, communication, movement). The premise is that societies tend to develop ekistic units in isolation from and at the expense of one another, rather than in overall mutually-supportive balance.

4.3.2 Summary of Proposal

Entopia is proposed as an achievable compromise between the realism of present decaying forms (Dystopia) and the idealized, unattainable (Utopia). It is essentially a totally inter-connected global super-megalopolis of 32 billion people. In Entopia Doxiadis envisions an evolved, global society where all five ekistic elements are balanced by a hierarchical arrangement which contextualizes the individual through all scales of societal interaction, from family to neighbourhood to regional city to the ultimate world-city of "Ecumenopolis".

4.3.3 Content Analysis – Assumptions

The underlying premise is continued population growth at a fixed contemporary rate to an ultimate levelling off of 32 billion by the year 2100. None of this is supported,
but appears to be simple extrapolation; how the population growth stabilizes is similarly not addressed. Society will evolve to the point where varying cultures and national identity are eliminated and a unified global society is in place. Anthropos is no longer a consumer-producer, but rather a conservationist. Technology has developed a decentralized production capability, and universal connectiveness distributes resources rationally, efficiently, and equitably.

4.3.4 Content Analysis – Form

The earth's surface is determined as having approximately 12 billion acres of habitable land of which a third each is devoted to settlement, cultivation and natural open space. Even at this, Doxiadis admits to a cultivation productivity far in excess of present rates simply to feed the population. Total connectedness of built form is facilitated by integrated networks of air, sea, and ground terminals and co-located road and rail lines. The global city itself is a linear, megalopolitan development with open-ended cores for response to future change. The balance is divided into a hierarchical range of spatial categories dependent on ideal sizes of societal groupings.

4.3.5 Content Analysis – Circulation

The proposal is dependent on a decentralized circulation system. At one end of the spectrum, Doxiadis envisions a traditional pedestrian-vehicular separation at the neighbourhood scale, thus eliminating dependence on the automobile. At the other extreme of the interconnected global city, he relies on advanced technology to produce, assess demand, monitor flow and distribute all goods and services via efficient, integrated, and co-ordinated movement systems.
4.3.6 Content Analysis - Population

The global city of 32 billion people breaks down as follows:

Class I  Dwelling Groups of 40 people;
Class II Small Neighborhood of 250;
Class III Neighborhood of 15,000;
Class IV Small Town of 7,000;
Class V  Town of 50,000;
Class VI Large City of 300,000;
Class VII Metropolis of 2 million;
Class VIII Conurbation of 14 million;
Class IX  Megalopolis of 100 million;
Class X  Urban Region of 700 million;
Class XI Urbanized Continent of 5 billion;
Class XII Ecumenopolis of 32 billion.

This roughly translates into six to seven Class XI communities, two located in North America, one in Africa, one in Europe, and about three in Asia.

4.3.7 Content Analysis - Density

Doxiadis' assumption of an ultimate settlement area of 4 billion acres yields an average gross density in the order of 8 persons per acre. Detail beyond this is not clear, but it appears that density per se is of secondary importance to the hierarchical spatial structuring of society.

4.3.8 Content Analysis - Consideration of Future Growth

Population expansion beyond the ultimate 32 billion mark is not discussed. However, continued emphasis is placed on internal flexibility and change, responsive to societal development. He is particularly concerned with the dynamics of central urban development and emphasizes a need for open-ended urban cores to offset present tendencies to decay and deterioration.
4.3.9 Evaluation

Although the anticipated rate of population growth and its ultimate levelling off is unsubstantiated, Doxiadis' approach is a highly realistic response to the established physical pattern of urban settlement and its growth. However, in recognizing the trend of linear megalopolitan expansion, Doxiadis attempts to provide order and structure rather than simple extrapolation. This aspect of his approach is highly pragmatic and realistic, as distinct from his para-Utopian anticipation of rational human and societal behaviour at a global scale. Entopia's ekistic unit balance theory provides a strategic socio-spatial framework rather than a finite physical solution.

Speculation as to the globe's ultimate population capacity is not really at issue here. Suffice it to say that the pattern of rural to urban migration has been persistent and, further, that linear megalopolitan form is well established (for example, Fuller, 1969). What is also a pattern with urbanization trends is that many traditional distinctions of class, wealth, mobility, leisure, work and social structures are blurring. Many socio-economic labels have been coined in the field of residential development, for instance, to describe newly emerging groupings of household types: empty nesters, yuppies, dinks (double income – no kids) and swings (two or more unrelated single persons), to say nothing of single parent families, gay couples with children. As well, there are renters, fee simple owners, condominium owners, rent-to-owners, co-operatives, shareholders, bare-land strata-title owners, time-sharers, the mobile home dwellers, apartment-hotel renters, the handicapped and the homeless.

The implications of such complications on physical planning for communities in the traditional sense is overwhelming. The Neighborhood Unit approach of days past is woefully inadequate and simply will not do. The dense, high-rise core apartment approach is equally obsolete. Rigid adherence to typical land-use zoning is losing
ground in denying a richer urban fabric to city-dwellers. Today's cleaner industry no longer requires tight definition and confinement.

Doxiadis' Ekistics approach to organizing his ideal city, Entopia, very simply proposes at one extreme extrapolating our present vision of settlements in order to develop a methodology for planning at a mega-city scale: from conurbation to megalopolis, from urban region to urbanized continent, and ultimately to an ecumenopolis. At the other extreme, he suggests formal recognition of smaller than conventionally categorized groupings - down to his "Dwelling Groups" of 40 people - an effort to cast off the lack of attention to detail and to take into consideration today's seemingly growing multiplicity of emerging new household types and activities.

4.4 Arcology

Soleri's Arcology proposal of 1969 is a fusion of Wright's contempt for the excesses and inefficiencies of the modern city and Le Corbusier's technological, organizational approach to its salvation. Soleri's solution is a combination of architecture and ecology which replaces present sprawling, "two-dimensional" urban areas with highly concentrated super-megastructures of almost unimaginable size with densities several times that of present-day cities. In this environment, he believes that not only will this efficiency and "miniaturization" combat currently-devastating urban sprawl, but the compactness and heightened interaction will enable humans to advance to another level of evolutionary progress (See Figures 15 and 16).

Like Archigram, Soleri's graphic imagery distracts from the thesis he is advancing, namely that of developmental intensification in response to the detrimental, continuous lateral expansion of automobile-dependent urban areas. Put very simply, his major contribution may be in the opening of our eyes to the almost limitless alternate resource
Figure 16 - Arcology Image

(Soleri, 1969)
of three-dimensional spatial development.

"The performance of the professionals, engineers, architects, and planners are doodles on the back of a cosmic phenomenon and will not do."
- Paolo Soleri, 1969

4.4.1 Context of Proposal

Soleri was a student of Frank Lloyd Wright and shares his mentor's criticism for the contemporary city of waste, pollution, and excess. The Arcological approach to solving these problems, however, is totally in opposition to Wright's individualized Broadacre City, and leans more toward Le Corbusier's idea of development through order and technology. Soleri, in fact, refers to Le Corbusier as "god-prophet".

In tune with the heightened awareness of the 1960s toward environmental issues, Soleri maintains that the horizontal spreading of present cities is inherently wasteful of resources and land, and is increasingly detrimental to mankind's potential achievement both individually and collectively. Further, he maintains, in defence of his "megastructural" approach, that we in fact are presently actually living in megastructures; we simply do not recognize existing cities in these terms. A city is a megastructure in the sense that there is a grid of streets the spaces between which are designated for built form; subservient to this grid is a network of service infrastructure for distribution of power, water, sewer and communications. Soleri and others simply go one step further and apply these structural and service elements into three dimensions.

4.4.2 Summary of Proposal

Soleri's Arcology is a combination of architecture and ecology whereby an "organic"
concentration replaces the existing built environment. The Arcology is essentially a centralized, super-dense city of heroic proportion with emphasis on maximizing the living-working-playing interrelationship, and contrasting sharply with the "external" natural environment. Dispersed throughout the region, Soleri's Arcologies propose to physically occupy a minimum amount of the earth's surface and to develop as specific and appropriate built response to varying natural contexts, both physical and climactic.

4.4.3 Content Analysis - Assumptions

Soleri maintains that the present trend of urban growth is inherently wasteful of land and natural resources, as well as counterproductive to the interaction opportunities of urban dwellers. With ever-increasing horizontal distances in the growing city, individuals and society must spend ever-increasing time and resources in travel and the extension of infrastructure. Soleri sees an increasing inefficiency in this syndrome and describes the existing built environment as two-dimensional and "earth-bound". He believes that by developing three-dimensional cities of enormously concentrated populations opportunities for interaction, activity, and general richness of experience will be maximized - a concept he terms "miniaturization". He asserts that mankind's approach to nature should be one of absolutely minimal impact.

4.4.4 Content Analysis - Form

The Arcology is a three-dimensional megastructure designed in rigid geometric form in such shapes as spheres, pyramids, cylinders, and cubes. It is symmetrical, highly ordered, and hierarchically organized in terms of function. Populations range from the tens of thousands to the multi-millions, and overall dimensions are fixed to produce maximum concentration with minimal impact on land. He has design prototypes for
locating in a range of terrain and climactic conditions, as well as being adaptable for underground, water, and orbital space contexts. Major internal functions are separated primarily into industrial uses, cultural areas, and living-working neighborhoods.

4.4.5 Content Analysis – Circulation

Inter-arcology connections are made through integrated highway, rail, water, and air networks. General internal movement is not specified, but one presumes some mechanized system for people, information, goods and services. Similarly, the local level of neighbourhood is presumed to depend primarily on pedestrian-oriented circulation given Soleri's dislike for automobile-dependence.

4.4.6 Content Analysis – Population

Arcologies range in size comparable to existing cities. Other than assigning seemingly arbitrary populations to his design prototypes which are scaled always in proportion to New York City's Empire State Building for comparison, Soleri does not place importance on this feature, other than to eliminate habitation of the vast areas of the earth's surface outside the Arcology.

4.4.7 Content Analysis – Density

Density is Soleri's key ingredient in his desire to achieve mankind's potential through maximizing interaction to the extreme. He maintains that this is essential for society's natural and predestined evolution beyond its present state. Arcology densities typically range in the order of 531 persons per hectare, with physical heights up to 1,000 metres, and minimal surface coverage. This compares to densities in London
of 27 persons per hectare (PPH), New York of 82 PPH, Tokyo of 124 PPH, and Mexico City of 22 PPH. Thus, by present standards, Soleri's Arcologies are relatively difficult to grasp and are, hence, experientially incomprehensible.

4.4.8 Content Analysis – Consideration of Future Growth

Growth of the Arcology is not possible beyond its closed geometric forms. Soleri, however, concentrates on evolution rather than growth per se, and proposes change taking place to the infrastructure and internal components as generations of society develop beyond the present state. He outlines a process whereby an Arcology is developed in stages, and proposes ultimate disassembly or demolition if necessary to respond to changing locational needs or in response to new "cybernetic" requirements at some indeterminate future date.

4.4.9 Evaluation

Although Soleri exhorts the reader not to take his graphic illustrations literally, this is akin to asking a jury to disregard just-uttered testimony. His graphics are copious, powerful, and overwhelming; this distracts from his written message which has much to offer as a criticism of the wastefulness of existing sprawl. Although most of Soleri's organic and natural principles are without apparent foundation, his arguments for three-dimensionality hold serious implications in the face of present time-distance concerns and the conflict of urban megalopolitan expansion conflicting with agricultural and environmental issues. Soleri, however, is totally non-committal on the future role of undeveloped areas in his Arcological future.
"Constantine Doxiadis presents a frightening world map. The American continent is covered with a kind of dark fabric...ecumenology, the universal city."
- Paolo Soleri, 1969, p.2

While a superficial glance at Soleri’s profuse graphic illustrations usually fosters a bemused skepticism at such outrageous concepts, one does not have to look far to see comparative examples in everyday North American life; Soleri has merely taken an extreme approach. For example, many regional shopping malls have been expanded in scope to provide, in addition to retail, restaurant facilities and parking, such amenities as cinemas, bars, mall entertainment, arts and crafts fairs, community activities, security services, and drop-in day-care centres. Several include integral office buildings, residential units, and multi-level parkades.

If one looks farther, many resort developments follow some of the basic lines described by Soleri’s drawings. Most notably, the two existing Disney projects in California and Florida are virtually self-contained comprehensive complexes of living, working and playing. Closer to home, the West Edmonton Mall includes professional level sports facilities, an indoor lake and beach, hotel and future residential development. Such places usually prohibit private automobile traffic, and are either fully pedestrianized or rely on bicycle or electric cart for transportation. With the exception of the large proportion of commuter-users, most universities would similarly qualify as self-contained pedestrian-oriented centres existing in general physical isolation from their surroundings. Perhaps a more dramatic example exists in off-shore oil rigs; essentially seabed-anchored, live-in factories capable of prefabricated assembly, disassembly and relocation on demand as their location-dictated life span reaches obsolescence.

Soleri’s ideas are not founded in totally foreign and unfamiliar ground; he carries to an extreme many of the present tendencies toward multi-use, centralized
mega-projects which in reality are quite common.

4.5 Summary

The essential relevance of utopian designs lies in the ability of their creators to seize upon aspects of contemporary urban society which they perceive as extant or potential problems, and to articulate their solutions as warnings or as alternative models for our future consideration.

As previously discussed, the impacts of early utopian designers such as Howard, Le Corbusier, and Wright have made serious impressions on their contemporary and subsequent built environments. Much of the physical forms and elements developed during the first half of this century have found their way into the vernacular of the present approach to the development of human settlements, particularly on the North American continent. This thesis has extrapolated these impacts further in hypothesizing that the effects of recent utopian design thought will be increasingly felt to the point that the designs reviewed may provide significant clues as to the nature of our built future.

Without attempting to overly categorize and pigeon-hole the work of the recent utopian designers, it is fairly safe to extract three major themes that are both explicitly and implicitly evident in their widely varying solutions to the issues they have chosen to address. These themes have been condensed into the following statements:

- state-of-the art technology should be continuously explored and developed to see how it can best be utilized to solve societal problems and satisfy its needs, rather than society being subservient and subsequent to technology.

- Future growth and change should be examined within an explicit
organizational framework which is specifically conducive and responsive to continuous change.

- The physical environment's "third spatial dimension" is implicitly utilized by society, but explicitly ignored in the development of built form; the third dimension can be explored as a potential planning and design resource.

4.5.1 Technology

History has shown that the technological breakthrough plays a major role in the development of our physical environment (See for example Fuller, 1969; Heppenheimer, 1983; O'Neill, 1981; Clarke, 1986). In this century, the accepted widespread use of automobile and air travel have first enhanced mobility trends and settlement patterns, and subsequently defined, for many, the very structure of daily existence. Growing computer use and increasingly sophisticated communications networking will contribute more to the determination of how and where we live. Hitherto entrenched decentralization patterns have reached a point in many areas where they are in danger of becoming self-defeating, and counter-productive in solving the very problems that gave them their initial impetus.

It is surprising that, upon close scrutiny, the work of most utopian designers is remarkable technology-free. Their designs are developed on cultural-socio-economic values, as they perceive them, and they simply assume, in all cases, that technology will be readily available to assist in achieving their stated objectives. These are not techno-freaks who seize on every latest gadget and attempt to reconstruct a society around it. Exactly the reverse is true: goals are defined, problems identified, strategies explored, and options proposed on the basis of presumed readily-adaptable support technology for implementation and development.

The obvious benefit of this attitude toward technology is that technology is seen
as a means to an end rather than having a purpose of itself. As opposed to the seemingly overwhelming limitations of present construction techniques, Soleri's mind, for example, is free to roam the limits of his imagination; he is thus boundless in being able to explore alternative urban forms based on his principles, rather than on, say, the known bearing capacity for concrete. Archigram's creative abilities can be similarly unconfined in their planning and design of cities that grow and shrink, walk, swim, and fly without being restricted by realistic considerations of mechanics. They can thereby offer for consideration options for the future otherwise unimaginable to the minds of those who are better suited to and capable of implementation and logistics. Without such an approach, without the reversing of present "priorities", the uncreative would be resigned to generations of repetition and confined to continued reliance on technological advancement for its own sake; they would then have to live with the consequences of lives determined by their technology rather than the other way round.

In a capitalist society, essentially, technology is capable of doing virtually anything man desires. The visible modern-day impacts of advances in the home or office or shops are ostensibly designed for improved convenience of work, the saving of time, the facilitation of communication, of just plain entertainment. In reality, little meaningful societal improvement takes place. Society is not necessarily assisted, nor is the quality of life measurable improved in significant areas. Increased productivity can simply increase expectations, labour-saving devices in the home can be offset by a greater demand for superficial luxury, and advancement in gadgetry too often results in trivial escapism. Meanwhile, serious societal issues of deteriorating education, structural unemployment, widespread homelessness and pollution are usually left to the attention of those whose access to technology is least served.
4.5.2 Framework

The built form and components of human settlements provide a physical context for society. That society is formed of such elements as culture, social structure, politico-legal institutions, and economic fabric, as well as the intrinsic human qualities of its individual members. Doxiadis' approach is less a physical one of ultimate megalopolitan extrapolation as it is a socio-economic organizational framework for accommodating the range of combinations of societal elements and their interrelationships.

It is readily demonstrable that neither extreme of central authoritarianism nor anarchic decentralization is either workable or desirable. Society operates, for varying activities and purpose, on a broad range of scales. The appeal of the Doxiadis' "ekistic" approach is that this range of scales is a fundamental starting premise which underlies the subsequent development of the physical configuration designed to accommodate it. Also fundamental to this concept is the notion of a balance between ekistic elements outlined earlier. Where Doxiadis fails is that his proposal ignores much of the less tangible social-institutional aspects in favour of a more simplistic spatial hierarchy. Regardless, it is refreshing to consider the implications of a societal framework providing a basis for planning which deals with scale rather than crude lines on a zoning map.

It is also becoming readily apparent that the stewardship of resources, especially that of land, is an increasingly critical issue, and that, while not necessarily approaching Soleri's extremes of concentration, a greater degree of sensitivity and awareness in planning and design activity is required in resolving conflict between urban sprawl and agricultural-environmental demands. Both Archigram and Soleri face this issue and attempt to deal with it in differing ways: the former in a flexibility of response,
the latter in a minimal-impact way. Doxiadis' more pragmatic acceptance of land-bound linear expansion of urban areas is, however, an approach of careful control and management which directs and structures growth in balance with natural and cultivated areas.

The consequences of mindless expansion have become increasingly evident, and alternatives are continuously being explored. Unfortunately, however the predominant paradigm of planning and design is inextricably caught between the lack of knowledge in the virtually embryonic social sciences and the day-to-day politico-economic jockeying of the status-quo. In this condition, planning and design activity is understandably, and increasingly, restricted to a piecemeal, reactive approach to coping with the development of society's physical environment; an holistic approach is discouraged; greater control is perceived as stifling, and lesser control seen as dangerous. The notion of a general framework of guiding principles, however, combines the necessary balancing of these two extremes in that it defines a general direction and supportive infrastructure - as in the case of Archigram's physical design, or Doxiadis' categorizing of social groupings - whereby various societal needs can virtually accommodate themselves.

Thus, planning and design activity must become more inextricably integrated with a wider, more generalized approach to society's opportunities and constraints. The built environment, like technology, must be placed in a perspective of serving rather than dictating the future. Archigram and Doxiadis have explored such possibilities; Soleri less so.

4.5.3 The Third Dimension

In addressing the built environment, however society collectively directs its ongoing
manifestation, the work of the likes of Archigram and, particularly, Soleri illustrates
the principle of greater physical scope than that traditionally perceived. The notion
of three-dimensionality is not new: air-rights agreements, +15 walkways and elevated
movement systems, widespread subway and air travel, and the high-rise elevator
are all commonplace aspects of modern life which increase the opportunity for physical
development beyond that of the ground plane. Archigram and Soleri simply go one
step further: they recognize this aspect explicitly.

When land values are upwardly manipulated and multiplied, when precious agricultural
land is threatened, when travel time becomes of growing concern, and when the
continuation of costly infrastructure becomes no longer feasible, density and height
increases. While traditionally the realm of the central city core, future urban growth
will, of necessity, have to come to the realization that increased density and height
are growingly reasonable alternatives. This is not to say that life will become
intolerable; certainly, those used to the idea of the house-on-the-lot as the only
acceptable form of habitation will require more traumatic adaptation, but increased
densities and height, as pointed out as early as Le Corbusier's 1922 Contemporary
City scheme, and as recently as Soleri's Arcology, can in fact provide certain
improvements over much of today's lower intensity of development.

Le Corbusier's concentrated approach features, for example, a ground coverage of
5%, the balance available for landscaping and amenities. Soleri, on the other hand,
proposes further benefits in terms of enhanced interraction, efficiency of movement,
and intensified enrichment of the general urban experience. Archigram explores
cities which are more flexible to the changing needs of its occupants, where ranges
of experience can be accommodated with greater ease and frequency.

The obvious leap from higher densities and increased building heights to the
three-dimensional opportunities as proposed by Soleri is not irrational: the primary limitation at present is that of imagination and creativity. The secondary limitations are to do with such legal issues as property lines, vehicular and service movement systems, and design principles of space, light, and privacy. Given the explicit pursuit of this resource and the political will to experiment in application, the logistics and technology cannot be far behind.
5. **APPLICATION**

"...it has usually been lack of imagination, rather than excess of it, that caused unfortunate decisions and missed opportunities."
- Herman Kahn, 1967, p. 400

"There is always a market for lesser-evil thinking which poses immediate alternatives; the need for thinking which confronts us with great hopes and great plans is not so evident."
- David Reisman, 1947, p. 173

"Indeed scientific knowledge has not merely heightened the possibilities of life in the modern world: it has lowered the depths. When science is not touched by a sense of values it works - as it fairly consistently has during the past century - towards a complete dehumanization of the social order."
- Lewis Mumford, 1922, p. 276

"...in an era that badly needs designers with a synthetic grasp of the organization of the physical world, the real work has to be done by less gifted engineers, because the designers hide their gift in irresponsible pretension to genius."
- Christopher Alexander, 1967, p. 11

"Even today, town-planning technique invariably lags behind the events it is supposedly controlling, and it retains a strictly remedial character."
- Leonardo Benevolo, 1971, pp. 78-9

"Science and utopian fantasy should complement each other. Science without utopian imagination clings to the present and leads to petrifaction. Such a science can only extrapolate the present and calculate the future in terms of this present...the utopia without scientific sense, on the other hand, runs wild and degenerates into pure fancy...it is only when science and utopia collaborate that man approaches the future in a prospective way...the utopia presents possibilities and asks science to test the feasibility of their realization."
- Martin Plattel, 1972, pp. 78-9

The basic significance of utopian designs occurs on three levels: **criticism, methodology, and physical form.** Criticism is useful in helping to define and prioritize existing problems of the built environment: utopian design methodology is of value in understanding the clear relationship between and translation of values into built-form, and can contribute to the planning process adding a sense of balance and a broadening
of perspective; and spatial alternatives generated by recent utopian designers are
glimpses into possible future settlement form and patterns, and suggest a wealth
of potential physical response to the growing complexity of societal issues.

This section of the thesis is a speculative exercise which synthesizes ideas from the
vast array of existing utopian designs into two diametrically opposed scenarios for
Canada in the 21st Century. The intention is twofold: first, to illustrate the potential
of utopian designs in modeling alternatives for discussion, testing and decision-making;
and second, to suggest that such an approach is adaptable to a wider spectrum than
the physical planning to which it is traditionally relegated.

The former intention is somewhat of an updating of the "Communitas" approach of
the Goodman brothers where three scenarios were postulated for the study of
alternative physical urban form. Widely acclaimed at the time, "Communitas" was
considered a break from the stereotypical utopian approach in the sense that the
Goodmans prefaced their exercise with the statement that theirs was an attempt
at modeling rather than specific proposals. Perhaps the notion was not more widely
accepted due to the fact that it was limited to physical planning and thus perceived
as just another subjective and self-indulgent eccentricity.

The scenarios proposed here are intended to relate to the broader planning field. From
the supportive literature, it is clear that the many voices speaking to the subject
call for utopian thought in addition to design.

The first scenario is a proposal where a new Centralism is spreading across the globe,
and suggests a direction Canada could consider taking in response to this trend. The
second is a proposal which suggests that seizing the developing phenomenon of
computerization and communications technology could lead Canada onto a wave of
dramatic decentralization.

As a kind of verbal graphic, the terms "Superopolis" and "Antiopolis" have been chosen for the respective scenarios.

5.1 Neo-Centralism

It is suggested here that Neo-Conservatism, emerging from the global economic recession of the last decade, has evolved into "neo-Centralism". This is evidenced by the general direction of the government and corporate sectors toward consolidation rather than the decentralist trend of the 1960-1970 period. The paradigm shift is the result of two primary factors: first, the reality of cut-backs which flowed from the recession and resulted in the closing of sub-operations in favour of the central plant; and second, the economic advantage to be gained from securing larger shares of a potentially diminishing pie by reducing competition to near monopoly proportions.

Examples abound. One of the most outstanding is the forming of global trading blocs such as Japan and the Pacific Rim nations, the Canada and the U.S. Free Trade Agreement, and Western Europe which even seeks standardization of its various monetary systems. Further evidence exists in other areas: corporate mergers flourish; local economic advantages are maximized; advances through continued in-migration and immigration; mega-projects abound; interdependence and cross-directorships increase.

Canada's specific situation is like that of a mere pawn in this global chess game. As a precarious, resource-based economy evolving into a service economy, Canada still is hampered by her inherent problem of physical geography: few people scattered over vast distance. As such, the economic health walks a tightrope between boom
and bust. Rather than urban regions which have distinctly mixed economies and varied industrial bases, Canada's cities for the most part continue to be single-interest places. Heavy reliance on Federal programs to balance regional disparity and the growing burden of social support infrastructure may have weakened this country rather than strengthening it.

The symptoms of this weakening are clear: the Free Trade issue was a divisive one, English-French tensions are high; Western Provinces grumble about the lack of Federal attention; the Maritimes continue to exist on ever-increasing handouts; native peoples, women and visible minorities complain about entrenching inequity into the Meech Lake Accord; and a newly-awakened environmentalism threatens to impede existing and new development and industry. In a sense, Ottawa fiddles while Canada burns.

It is proposed, in the Superopolis utopian scenario, that a new national paradigm be explored: one which recognizes the Windsor-Toronto-Quebec corridor as the literal centre of power, finance, industry and population and capitalizes on this reality rather than continue past dilutive attempts to "balance" the country. This proposal suggests Canada call a spade a spade.

5.2 Superopolis

An expanding city evolves into a metropolis, a metropolis into a megalopolis and a megalopolis into an urban region. This thesis suggests that an urban region expands into a "Superopolis". Examples of urban regions in the U.S. include the Eastern Seaboard, the north-central industrial area and the southwestern coast. Buckminster Fuller (1969) identified these conurbations as "Bos-Wash", "Chi-Pitts" and "San-San" respectively. The Canadian equivalent is centred in Toronto and extends southwest to include Hamilton, London and Windsor, and northeast to include Oshawa, Kingston,
Ottawa-Hull and Montreal. Potentially, it extends beyond Quebec City to the mouth of the St. Lawrence.

This dense urban region drives the country. The Superopolis scenario recognizes this explicitly and seeks to intensify this situation whereby Canada may not only stay in competition with its global neighbours, but in fact surpass them. The essence of the scheme is threefold: first, designate the Superopolis as the focus for all growth in population and new investment; second, assign status to Greater Vancouver as a sub-Superopolis for future Pacific Rim action; and third, relegate the rest of the cities throughout the country to Regional Service Centre status, responsible only to produce and distribute resources to the central core.

On the assumption that the foregoing sweeping and simplistic decisions have been taken, the Superopolis scenario now focuses on the new physical ramifications and possibilities which can occur.

5.2.1 Physical Form - Macro-Scale

The form, by definition, is linear and ultimately extends continuously from Windsor to Quebec City. While the density varies along it, the general intent is a concentration slightly higher overall than present inner city areas. As infill development occurs roughly along the coastline of the Great Lakes it also periodically extends inland as well as outward into the lakes themselves. Such extensions take place at periodic new cores, and the whole is interconnected and reinforced by an efficient rail transit network.

The foregoing overview makes reference to a number of available utopian design ideas and elements. The fundamental notion is Soleri's which is premised on the notion
of concentration to minimize impact on nature. Although Superopolis need not approach his extreme miniaturization, it is opposed to continuing suburban development. The linearity concept is a feature of numerous utopian designers but is tempered here with the necessary compromise of sub-centres in order to introduce both scale, focus and flexibility to the whole. This notion evolves from Howard and the host of town-country decentralists, but Superopolis is simply a stronger-linked variation.

From Tange and others comes the idea of building into the Great Lakes which is of twofold benefit: new "land" and the opportunity of introducing water as a major integral urban amenity. The necessity of rail transit is an obvious and long-overdue anti-automobile element and would act as developmental stimulus as it traditionally does in all cities so endowed.

5.2.2 Physical Form - Micro-Scale

Superopolis would be developed with a range of scales: from the individual and family unit to the local neighbourhood, from the community to the sub-core, and from the metropolis to the whole. While it is recognized that working-social-blood relationships form an inherent non-physical networking in any urban centre and will be enhanced by proximity of concentration and ease of mobility, it is still a human requirement to relate positively to and identify with the physical surroundings. Thus Superopolis will be structured in a hierarchical fashion focused, for example, at the neighbourhood scale on convenience shopping, entertainment and amenity, the school and community centre. At the community scale, identity will be established around public open space, clean industry and business offices, larger retail facilities and recreational amenities.

The current issue of zoning will be revamped with the emphasis on mixed use rather than the present use-segregation approach. Light industry, housing, commercial,
educational, institutional and recreational facilities will vitally co-exist and together provide a richer urban experience.

Built form will continue to have varying height and density as it does now, but with greater heights achievable through improved construction technology. The prevalent form, however, will be mid-height high-density buildings where amenities and services might occupy the lower levels, housing the upper, and work space in between. The age-old live-work-play ideal could be reinforced and would certainly be supported by advances in computer and communications technology.

Present institutional facilities would be dispersed throughout rather than centralized. For example, a school or university would be linear and integrated along a pedestrian mixed-activity route in order to make education a broader issue, more a part of everyday life than the current semi-cloistered and expeditious approach.

Ideas proposed in this section are derivative of Doxiadis' notion of hierarchical scale accommodation, where attention must be paid to relationships of different social groupings and how they fit into the urban whole and its components. This suggestion also bears foundation in work of the likes of Howard, Stein and Perry. The proposal to eliminate most of the present zoning approach is related to a more flexible attitude toward urban mix. While it does not go as far as the more anarchical suggestions of such "plug-in" concepts as Archigram's or Kemble's, it does recognize that a richer experience can be beneficial and hitherto incompatible uses can, in many cases, be sensitively blended; such an example is found in Vancouver's Granville Island and Fairview Slopes.

Built form ideas owe a great deal to Safdie's ground-breaking Habitat '67 in Montreal. Superopolis would borrow the design principles of scale and individual open spaces,
but would propose a more mega-structural/service framework as a more practical solution than his problematic structural unit approach.

Finally, the live-work-play aspect is a favourite concept of both utopian designers and planners in general; references can be found throughout planning literature as to its desirability, from Picht to Jacobs.

5.2.3 Transportation and Circulation

Public transportation will be a key structural element in Superopolis, with the private vehicle restricted to peripheral areas of the local communities. External connection from and to Superopolis will be by air and water supercarriers for both passengers and goods, and by pipeline for raw materials. Overall transportation within Superopolis will be by overhead passenger monorail and by subway for goods and services. The main monorail/service route will be constructed off-shore running roughly parallel to the coastline with interchanges to sub-routes at sub-cores. The purpose of this location is twofold: minimum disruption to existing infrastructure and the creation of a new zone for building sites and water-related amenities. It is felt that growth into the Lakes is less disruptive overall to land-based growth.

Branching off from monorail interchanges at each sub-centre will be slower speed, above ground rail service which will in turn connect to local bus routes. Each mode would in turn be more flexible in inverse proportion to its scale of operation. At the scale of the individual urban sweller, emphasis would be on the pedestrian mode with greater use of bicycles and other such non-powered circulation.

The ideas proposed in this section are to be found throughout utopian design proposals along with general planning principles common since the turn of the century. The
emphasis in Superopolis would simply be a more sophisticated and hierarchical transit network and a somewhat less emphatic separation of automobile and pedestrian.

5.2.4 Open Space

The major open spaces of Superopolis will be land-based and water-based. While partly utilized as community identity foci, it will be used for recreation and general amenity. Public space within and about Superopolis will be pedestrian-oriented and will generally consist of a multitude of interconnected small-scale street-front spaces which occasionally open onto large plazas. The tone of the plazas and larger open areas will be distinctly man-made in contrast to the "natural" environment beyond Superopolis.

Contrasting strongly with Le Corbusier's towers-in-the-park form, Superopolis recognizes his call for a pedestrianized urban setting. The smaller scale type of circulation is derived, however, more from Jacobs' ideas for a vibrant neighbourhood and less of the fervently pedestrian-automobile separators such as Stein and Perry. Good examples of such spaces can be found throughout older parts of European cities but local examples exist in old Quebec City and Victoria's Old Town.

5.2.5 Future Change

Future change would primarily involve new development and corresponding infill for many decades to come. It is anticipated that the transportation infrastructure combined with the "new land" created along the lake front will provide a capacity for absorption of population, commerce and industry well into the next century. Periodic revision and renewal to development within the overall organization is expected, and hence physical guidelines are not rigid as in the case of heavy reliance
on mega-structures and density restrictions. Instead, Superopolis provides more a framework which attempts to comprehensively and synergistically build in many of the generic physical planning principles that have stood the test of time: human scale, neighbourhood/community, public transit, pedestrian-automobile harmony, mixed-use coexistence, and flexibility to respond to future change.

The guiding concept behind the Superopolis approach to future change differs significantly from the majority of past utopian designs. With the exception of a certain amount of supportive infrastructure—transit, services and added land form, it is distinctly non-authoritarian and does not rely to any great extent on overriding physical form.

5.2.6 Summary

Summing up Superopolis can be done on two levels. First it is a utopian concept at a national policy level: to commit the future of Canada to a single, mighty urban concentration which forms a global-scale power base to meet the challenging needs in the next century.

Secondly, it is a utopian design in the traditional sense which proposes certain physical organizational elements, general physical form and guiding principles of physical planning.

While recognizably radical from some perspectives, the basic idea is not really much more than an extrapolation of the existing Canadian reality. Superopolis is utopian in the Centralist spirit of Le Corbusier, Doxiadis and Soleri. Yet, in its awesome concentration, it is capable of retaining the human scale and neighbourhood qualities of Howard and his bucolic Garden City.
5.3 Networking

Since the advance of "computerization", which extends in this context to mass availability, the notion of informal linkages is heading in the direction whereby Fuller's predictions of obsolescence of the present city form may be achieved. Aside from computers themselves, there is a corresponding integration into domestic and commercial life advanced document reproduction, photocopying, and facsimile transmission; there is growing reliance on satellite-feed teleconferencing, cellular telephones and rapid opinion polling; there is widespread enjoyment of computer games, televisions with enhanced picture and stereo, and laser compact disks. The trend is toward speed, miniaturization, economy, convenience and portability. Location-dependence, it would seem, could be a thing of the past.

Canada is ideally suited to maximize the potential of this technological advancement. Its' inherent disadvantage to date has been that of a small population scattered over a huge area; fixed link communication and transportation do not best serve such a situation as witness the inefficiencies of transcontinental passenger rail, pipelines, highways and mail delivery. Additionally, improvements to land-based transportation systems are prohibitively capital intensive, require heavy maintenance and are invariably environmentally destructive. What better national strategy therefore than one which relies more and more on air waves for enhanced productivity and lifestyle than one which is land-dependent?

At a micro-economic level, it is generally understood that small business drives Canada's economy. The new networking approach encourages and enhances the idea of remote, small-scale firms and consultant teams interdependently linked by communication technology. Major industrial and manufacturing plants will still exist, but manual labour will be more effectively handled by robotics. Decision-making
at a governmental level is being determined to an increasing extent by issue-polling, lobbying and petition-gathering rather than by centralized, in-house legislative bodies, which themselves are partially televised.

5.4 Antiopolis

As its name suggests "Antiopolis" would be more a way of life than a traditional fixed city. With increasing reliance on and widespread use of a growing number and degree of sophistication of networking possibilities, the notion of herding together in permanent, ever-growing, ever-crowded urban settlements, the population of Canada would be able to better choose more individually customized location and lifestyle. While Antiopolis would not negate cities per se, it could transform them into more specialized, limited-function centres focusing on location-specific strengths and particular advantage. Examples could range from recreation (Vancouver), health care (Saskatoon), tourism (Calgary, Banff, Jasper), multi-culturalism (Montreal), finance (Toronto) to Arctic research (Inuvik). Air travel will be faster, more frequent and flexible, utilizing more vertical-take-off-and-landing craft to downtown and remote locations. Recreation and the leisure industry will grow as the traditional centralized work place becomes more dispersed, diversified and tailored to the individual or small group. Mobility and flexibility will combine with a richer, wider range of choices, stimuli and opportunities than hitherto imagined.

Present government would gradually evolve into a referendum based decision-making system with greater participation and equity via network involvement and direct issue voting. The corporate sector would transform into a more complex series of Boards of Directors, while management would be redirected to recruiting teams of expert consultants from across the country for particular tasks on a retainer or as-required basis. Thus the present level of personnel-based overhead would diminish.
With the education system transformed to a network basis, the need for school-focused communities would vanish, and families would be freed to travel or relocate without fear of uprooting children from continuous education.

Convention centres, educational-recreational facilities, and resort and target-market hotels will flourish, catering to an increasing number of vacationers, semi-permanent "travellers" and "business-families". For those seeking less urban specialities and attractions, luxury campgrounds, theme parks, wilderness centres and remote, full-hookup outlets will expand. While for those who desire stays of longer duration, a proliferation of home swap/share or time-share condominiums will flourish.

Thus, it will be possible in addition to those who wish a permanent "home base", for individuals, families and other groups to travel to a greater extent than hitherto dreamt of by either Wright in his Broadacre City or by the more recent Archigram Group's Plug-In City.

5.4.1 Physical Form - Macro-Scale

Suburbanization since World War II had a distinctly diluting effect on the central city. The recent decade has seen extensive attempts to revitalize downtown areas. These efforts have, with the exception of expense-discriminating commercial and residential condominium development, been largely of a superficial attention-getting, amusement-oriented device which are geared to entertaining and novelty packaging to attract retail dollars; they do not address fundamental issues and problems of deteriorating education, homelessness, the handicapped or the lower-income and single-parent family.

The new age of information will cause a backlash reaction which could make
suburbanization seem mild in comparison. People who live in the suburbs will no longer commute for hours on congested arteries; they now will simply stay home. The downtown will deteriorate, after a rash of last gasp attempts to entice population, but will inevitably wither and die.

Antiopolis proposes however that, in combination with stronger decentralization, the cities act in advance to strengthen their natural advantages and transform themselves into limited-purpose centres of specialty: research and development, marketing, concentrated activity and the related supportive infrastructure and services.

Vancouver, for example, may choose to capitalize on its natural advantage of setting and become the world's foremost centre for recreation and leisure. In addition to its significance as a port facility, which would move off-shore like the Ferry and Coal Terminals, the city could develop the entire Burrard Inlet as a controlled water resource for underwater and surface research, sport, leisure and general amenity. It could stage the "Water Olympics", perhaps as a permanent facility.

Vancouver could capitalize on its skiing attractions by constructing a ski-monorail from downtown to Whistler; it could even dome over a mountain valley to create a year-round ski resort. In addition, Vancouver could attract the full gamut of North American and world major league sports franchises; it could have a Grand Prix circuit or World Cup sailing.

It could be a research and development centre for sport, leisure, facility design, health and performance, undersea exploration, marine biology, or environmentally-sensitive water activity of all kinds.

In a similar vein, the City of Winnipeg could intensify and expand its present level
of art facilities, such as the Royal Winnipeg Ballet, the Winnipeg Symphony, and the Manitoba Theatre Centre. It could broaden its educational base in Architecture, Fine Art, Urban and Interior Design.

Winnipeg could become a world leader in Visual, Performing and Applied Arts. It could extend this concept by closing in the downtown portion of Portage Avenue to create a permanent facility for education, entertainment, display, purchase and all-round enlightenment to the world; a facility many times greater than Los Angeles' "Blue Whale" or Toronto's "Designer's Walk".

The City of Calgary could become the focus for wildlife, conservation, and research and development of the natural environment. Situated near Banff and Jasper in the Rocky Mountains, its natural geography extends through foothills to prairie, and could lead the world in education, tourism and related land-based environmentalism.

Inuvik could become a major centre for northern and Arctic issues; Montreal could focus on multiculturalism; Ottawa-Hull on space and communication technology; and Halifax on historic or maritime issues.

The cities of Canada, at this macro-level, would be transformed into primary and secondary global "Centres for Excellence" and would bring new purpose to urban form as well as to the country as a whole.

This notion has its roots in Fuller's statements that the new technology will make the traditional city obsolete and that new purpose and significance must be found if it is to prevent total collapse. While Decentralists such as Howard and Wright, and Megalopolitans such as Archigram and Moholy-Nagy do not exhibit strong feelings for the central city, Antiopolis recognizes that the new city that can emerge from
technology-driven urban dispersal can be rejuvenated to a more substantive and substantial level than present cosmetic effort.

5.4.2 Physical Form – Micro-Scale

At the level of the individual, the family unit, the small purpose-formed group, the potential for varied lifestyle and physical location is unlimited. With highly developed satellite communication networks and sophisticated service infrastructure, one can literally live on the top of a mountain, at the polar ice-cap or under the ocean. Although there are some who may opt for some time to explore such possibilities, the human reality is that there is an inherent social characteristic that will always require attention. This, however, will advance to a less authoritarian structuring than hitherto possible.

While the present built-form options will continue to exist, other presently fringe-like facilities will expand. A good example is the resort cottage which will for many become the permanent home rather than the suburban house which is traditionally geared more to school investment and work-related compromise than ideal lifestyle facility.

A broader example relates more to the workplace of Antiopolis. Individual specialists or consultant teams, in addition to linked work at their homes, will gather periodically for contract assignments. Hitherto, the traditional pattern would be for the husband-father to undergo exhaustive commuting in conjunction with solitary hotel living where spare time is spent apart from regular family life. The Antiopolis scenario enables the entire family to relocate temporarily with no disruption to education and no interruption of social communication to the assignment location. Full facility hotel-resorts will compete with one another to cater to complete family requirements
at expanded levels beyond even that of Alberta's West Edmonton Mall. The family unit would remain intact throughout the assignment.

While utopian designers have outlined decentralized schemes to varying degrees in the past, the ultimate technology-based concept is that of Archigram's "Plug-In" approach. Beyond their Plug-In City, they have developed ideas for remote full-service hook-ups disguised as tree trunks; they have envisaged whole communities that walk and fly; they have graphically explored huge inflatable and expanding tent structures that one can carry on one's back to provide a complete luxury environment at the push of a button. Extreme as these notions are, they do illustrate what is technologically possible. In Antiopolis, however, the proposals are more conservative in recognizing that social institutions and their infrastructure are of significance. The attempt is to balance these realities with technology and imagination in order to enhance rather than destroy society.

5.4.3 Transportation and Circulation

The Antiopolis proposal would be serviced by two main systems: air to transport visitors and workers to and from the urban attraction-centres, and communications infrastructure for universal hookup throughout the country.

Within the urban centre, a basic public rapid transit system would radiate outward from the core with flexible bus routes as the secondary system. In general, the population would be inclined to travel less on a daily basis than at present, utilizing other forms of interconnection more than physical mobility.

The rationale for the foregoing is less utopian than it is an extension of the existing situation where electronic means of communication are becoming so commonplace
that the home without a computer, an automobile without a cellular telephone or an office without a facsimile transmitter will soon be the exception.

5.4.4 Open Space

Open space in the Antiopolis concept refers more to "wide open spaces". In other words, more and more presently remote areas will be made available and accessible to a greater extent than ever before. The log cabin in the woods, presently a holiday retreat, could become the permanent home; the sailboat weekend escape may become extended to full-time weekday life. The word "vacation" will soon be dropped from one's vocabulary as the living-working-playing synthesis becomes a reality.

5.4.5 Future Change

The future of Antiopolis is virtually unlimited. The Canadian cities, formerly the focus of urban life and wealth, will take on new meaning: education, research and development, entertainment, cultural resources, historic treasures. An open-ended potential, subject to continuous advancement in the respective fields distinctly different from one another in every respect, changing and improving to enrich the experience and economy of the population.

Blessed with vast land and water resources, mountains, foothills, tundra, prairie and the Arctic, lakes, rivers, deltas, hot springs and sea shore, Canada's advantages over small countries are obvious. With continuous development of technology, exploring and developing Canada could very well occupy the lifetimes of many generations to come. The future of Antiopolis is assured for the 21st Century and beyond.
5.4.6 Summary

Antiopolis is a technology- and marketing-based utopian concept. Technology opens the doors to such a scenario more so than Fuller or even Archigram ever dreamt of. Marketing is the driving force of the North American economy. Combining these two elements can produce the wondrous new cities that will become world centres in their respective fields of specialty. Combining these elements can open up a whole new lifestyle for the population; a lifestyle which is individual-oriented rather than society-dictated, one which restores freedom and provides the luxury of expanded choice, one which asserts human dignity without authoritarian demand.

Antiopolis is utopian in the spirit of Howard, Wright and Archigram; it is utopian even in the sense that Soleri dreams of: transformation of mankind into a new evolutionary being, a higher plane of civilization.
6. EXPANDING THE PLANNING PARADIGM

"To the urban-planning student, the best of the Ideal Communities are examples of how broadly an unfettered mind can think and dream and how far the undimmed eye can see. Exposure to Ideal Communities is perhaps a part of the most vital element of a planner's education. For these are case studies, examples, which inculcate a spirit of healthy criticism towards the existing environment and society."

"Thus we have cited Disney World and the images of Superstudio, not for their intrinsic values and vices, but rather as the logical extensions of two points of view which, in themselves, may both be valuable; but the presumption here inferred that only the middle ground of an argument is of use, that its extremities are likely always to be absurd, is now positively introduced, not from any passion for compromise, but as an intuition which might assist some kind of alert and workable detente."
- Colin Rowe, 1978, p. 48

"The concept of cities as they now exist developed entirely before the existence or the thought of electricity or automobiles, or before any of the millions of inventions registered in the United States Patent office had occurred...Cities, as we now know them, are obsolete in respect to all of yesterday's functions."
- R. Buckminster Fuller, 1969, p. 346

The planning profession needs to re-examine and address the present predominant approach to planning. Serious weak spots in this approach lie in the areas of how to deal with intangible and qualitative societal issues, as well as how to return the planning sphere of influence to a distinct, explicit, and stronger facility for future-oriented activity. This section of the thesis suggests some tentative directions that address both these aspects, leading, it is hoped, to greater discussion and the exchange of knowledge that may develop and entrench an improved methodology into the present paradigm.

6.1 Approach

This section of the thesis examines, in conceptual and preliminary fashion, precisely
how the utopian approach, and more specifically, the utopian design modeling aspect, can be taught, learned, integrated, and communicated within the planning profession (See Figure 17). Certain of the thinking here reflects that of Herman Kahn and Anthony Wiener of the Hudson Institute Inc. and their approach to the study of the future (Kahn, 1967). Another source used is that of Paul Dickson (1971) and his work on think tanks (1971), as well as references to Toffler (1971) and Naisbitt (1982).

The steps toward an expanded planning paradigm – one which blends art with science, one which recognizes planning's responsibility to participation in the future as well as reacting to the present – are as follows: understanding, testing, formalization and legitimization, and, ultimately, integration into practice.

6.1.1 Understanding and Commitment

Understanding must take place on many levels. It has been demonstrated that the planning of today leaves something to be desired. It would be easy and somewhat justifiable to protest that externalities are the cause of planning's ineffectiveness: for example, public hostility, political intrigue, market impatience, and economic reality. It would also be a cop-out. The thrust of this thesis is that planners are sometimes too readily malleable to such externalities, and, by a snowballing effect, continue to fuel the very fires that can weaken credibility.

To understand and develop a commitment to all that is planning's vast potential is the first step. To understand and develop a commitment to planning as a blend of art and science is the second. To understand and develop a method of approach which recognizes and embraces the talents and creative energies of the utopian designer, the dreamer, the intuitive mind is the third. To face the intangible and unquantifiable head-on and deal with it is the last step.
Figure 17
Implementation
Continuing in the present vein, that is to ridicule the aberrant fringe element of utopianism as embarrassing, to ignore the qualitative because it cannot be quantified, to rely more and more heavily on computer modeling and "if-then" projections, and to pay overdue homage to a short-term oriented establishment is to resign planning's future to an unplanned future.

6.1.2 Education and Testing

Once the planning profession accepts the notion that utopianism is a worthwhile and potentially useful, if not downright necessary, aspect of its work, it then falls largely within the purview of academia and that of the intercommunicative academic journal and similar communication vehicles to examine how best the subject can be studied, developed, and taught to future generations of planners as well as by members of the present generation who have a desire for continued learning and professional development.

Initially, at least, a greater emphasis and more time could be placed on those seminar and workshop courses that inspire and encourage creative thought and discussion at the expense of the more lecture-oriented format. Integral with these thrusts would be special attention paid to the methodology of the artistic, intuitive, non-linear approach in fields such as Fine Art and Design, at least in the initial stages of the general exercise suggested here. Communication would, of course, have to be continuous. This could be handled quite readily via the normal channels of professional exchange - bulletins, seminars, conferences, periodicals, and publications - but could also be extended gradually into the realm of public attention through newspapers, magazines, and other mass media including popular literature (eg. Toffler (1971), Naisbitt (1982), et al). Introductory forays into the practicing world of professional planners could also take place, initially as student/office exercises, and later as
experiments within the field itself.

Gradually, the notion of utopian methodology could be introduced at all levels of the profession, as well as insinuated into the everyday world of public experience.

6.1.3 Legitimization and Formalization

Once it was felt that a sufficient body of thought and action on utopian methodology had been established, the next important step would be the formal recognition of this element by the planning profession at large through its organizations and associations. An invaluable by-product here would be the re-examination, restructuring, and reconciling of present planning methodology; one cannot incorporate a new element into a process without a critical and thorough understanding of that process in order to best determine fit and proportion.

Again, continued and, at this point stepped-up, intensity of communication would be necessary, aimed now more intensely at the general public as well as at the decision-making levels of public and private bodies.

6.1.4 Integration and Practice

Having passed all prerequisite tests, as it were, the notion of utopianism as an integral and essential part of planning the last bastion of everyday reality is reached: professional practice. The practising professional can often be reluctant for various apparently sound reasons to embrace changing methodology. It is, however, absolutely vital that this hurdle be jumped. Once incorporated into the daily habit of regular practice, the merits of utopian inclusion will presumably prove self-evident, and planning will achieve a more meaningful place in society, not only as a profession
with heightened legitimacy, but, more importantly, as a force capable of making a more serious and growingly significant contribution to the future.

6.2 Future-Orientation

Whatever else planning is about, it is about the future. Throughout the literature, from Mumford in the 1920s to Naisbitt in the 1980s, there are constant and unceasing reminders of this fact. What is not usually made explicit, however, is precisely which future. Is the planning-relevant future the next year, the next decade, the next century? Quite obviously, the answer is all of the above. It is difficult, however, to be serious about even contemplating 100 years from now; moreover, it is even more difficult to convince the public and the decision-makers of this.

Friedmann (1973, Chapter 5, Fig. 6, p. 141) deals very rationally with this issue in his graphic and written summary of what he terms "Time Relations in Social Guidance", where he points out that our certainty of understanding decreases in both directions from recent to distant past and from near to far future, while wisely avoiding assigning specific year-dimensions to his graph. It is quite obvious that the most common time-frame of conventional planning activity is focused on the near past, present, and very near future. However, this does not give license to ignore the more distant future entirely. What does make sense is to recognize that decisions taken today regarding such things as roads, underground services, buildings, and zoned land use affect future decades, and sometimes centuries. It makes sense to spend some effort examining potential issues as they are identified. It makes sense, considering the impact of known trends such as automobile usage, air travel and computerization, to also speculate on possible future ramifications of other perceived trends, and to extrapolate scenario-studies of their potential impacts.
Futurism, utopian thinking, and ideal community design in planning is presently a fringe activity. Its adherents are not mainstream and, with the exception of the occasional best-seller, the subject of the future is viewed by the public with suspicion, by decision-makers with skepticism, and by the planning profession at-large with a degree of derision. After all, if present forecasting efforts can only speculate in the short-term with such inaccuracy, it is difficult to persuade the planners' clients to tackle the longer term.

This situation has come about largely as over-reaction to the failure of comprehensive Master Planning and the Big Computer Model craze of the 1960s (Weaver, 1983). This failure was predictable and deservedly so. These approaches essentially sought to cast in stone long-term plans based on as much data as could conceivably be processed. However, change is not predictable and could not be programmed. Notwithstanding, this thesis suggests one small element that can be incorporated within the planning process which will enable a formal speculative vehicle to identify and extract certain aspects of societal behaviour, and to develop and examine them on a contingency basis in anticipation of choices for general direction. It can also be used for consideration of developing futures which can be avoided.

Recently, trends have been perceived and identified (see, for example, Kahn, 1967; Naisbitt, 1982; Toffler, 1971) introducing to public awareness extrapolations and implications of past and present societal activity which certainly deserve, and perhaps demand, to be examined more seriously by the planning profession. While the impact on physical planning of Toffler's "shock" may be of little direct concern to planners, certainly the trends noted by Naisbitt of decentralization, continued education, and urban-urban migration patterns have significant meaning. Similarly, Kahn and Wiener's thoughts on leisure, improved health and life-span, and megalopolitan expansion can be of enormous impact on the physical environment of the future. If one throws in
Fuller's suggestion (1969) that the city itself is in fact obsolete, an even more dramatic case can be made. This does not even begin to touch on the impact of natural phenomena and disasters, including the potential planet-wide Greenhouse Effect; reconstruction after earthquakes, floods and famines; or the settlement of outer space, undersea, desert, or arctic regions — all of which are presently technically feasible.

6.3 Application

Kahn and Wiener's objectives for future-oriented policy research include the following:

1. stimulating and stretching the imagination and improving the perspective;
2. designing and studying alternative policy packages and contexts;
3. creating educational expositions, methodologies, paradigms, and frameworks;
4. improving intellectual communication and cooperation particularly by the use of historical analogies, scenarios, metaphors, analytic models, precise concepts, and suitable language;
5. increasing the ability to identify new patterns and crises and understanding their character and significance; and
6. improving the administrative ability of the decision-makers and their staffs to react appropriately to the new and unfamiliar.

Planning for the distant future — that is somewhere in the vicinity of a 10-year or beyond time-frame — is not planning in the conventional sense. Rather it is simulated exercise in thinking and discussion which defines possible general directions as frameworks for shorter-term scenarios.

Probably most important, at least for us at Hudson Institute, is that long-range studies provide a context in which to do five- to ten-year studies that can and do influence policy choices. (Kahn, 1967, p. 1)

As an "umbrella" category of possible applications of utopian design, the idea of long-range planning is laid out more specifically in the following sections. However, emerging technologies for the habitation of outer space and under-ocean, for the development of arctic, desert and other presently unoccupied areas would very definitely
expand this category into perhaps a physical planning sub-section devoted entirely to potential application of technological advancement.

Too often expediencies shaped by time, budget, manpower, available data or externalities limit project planning to a narrow range of possible strategies, often simply variations on one theme. In many cases, options and alternatives are not even considered at all, especially if one is from the school of thought which believes that the linear approach from the general to the specific is of faultless logic and immutably correct. The obvious application of the utopian design approach to specific projects, regardless of size or specific nature is that more options, choices and alternatives can be generated and explored. This approach would have the obvious beneficial side effect that the various non-planner actors may participate more fully in the process rather than being limited to a fait accompli generated "in-house", and too often viewed subsequently with suspicion and unease by those who are planned for.

Whether or not one subscribes fully to the Megatrends of Naisbitt (1982), or the 33-year overview of Kahn and Wiener (1967), it is reasonable to at least project extrapolations of certain societal phenomena which can be isolated and explored as hypotheses rather than simply waiting to react to events. This is an essential ingredient of planning's "raison d'être": to anticipate and provide courses of action in advance of need.

One can certainly discern, by even a cursory study of history in this century, the major impact of increased automobile ownership, air travel and computerization. Learning from history is an inescapable requirement. Will increased computer-use and telecommunications, for example, exacerbate the decentralization of urban areas further? Or, as less human contact is required in the workplace, will people need to compensate by enhanced social contact elsewhere? What are the potential implications to physical planning in each case?
By isolating such technological developments, impacts can be hypothesized, models built, ramifications explored, and options generated prior to the entrenchment of such trends. Thus planning has a fighting chance of allowing society to be prepared rather than caught short in an interminable series of reactionary crises.

Naisbitt's 10 Megatrends for the U.S. include the following:

1. From an industrial to an information economy;
2. From a technological to a high-tech/high touch society;
3. From a national to a global economy;
4. From short- to long-term time-frames;
5. From centralized to decentralized decision-making;
6. From institutional help to self help;
7. From representative democracy to participatory democracy;
8. From hierarchical structures to informal networks;
9. From northeast urban areas to south and west; and
10. From either/or choices to multiple-choice options.

Kahn & Weiner's Trends (to the year 2000) include the following:

Some of the elements of the trend - especially increasingly sensate (empirical, this-worldly, secular, humanistic, pragmatic, utilitarian, contractual, epicurian, or hedonistic and the like) cultures; accumulation of scientific and technological knowledge; institutionalization of change, especially research, development, innovation, and diffusion; increasing affluence and (recently) leisure; urbanization and (soon) the growth of megalopolises; decreasing importance of primary (and recently) secondary occupations; and literacy and education - should become especially prominent in the "Visibly Postindustrial" countries...

p. 185

The application of the utopian design approach to phenomenological planning deals primarily with natural changes of long-term and potentially global effects, and is understandably more vaguer than other facets of physical planning. Nonetheless, there is considerable merit for consideration of such issues as the predicted "Greenhouse effect" whereby the temperature of our planet's atmosphere is measurably increasing due to continuing depletion of the ozone layer of our atmosphere. When, what, and how significant will this effect be on future settlement patterns, their nature and locations? What options could be considered in the lead-time available? What are
the implications of advancing deserts on the African continent? What are the implications of general climatological change, of continued soil erosion, of deforestation? While seemingly far-fetched as planning responsibilities, these types of natural phenomena can and should be studied to provide in advance the necessary solutions to adapt to or deal with them.

Reconstruction after such natural disasters as floods, famines, drought or earthquake is a significant and serious business. Man has certainly experienced enough case-studies that some form of formalized contingency and improved rebuilding strategies can be developed. Man-made disasters as a result of war, increasing accidents associated with the generating of nuclear power, or the dumping of hazardous wastes are also areas where advanced thinking can, if not prevent their occurrence, at least propose physical options for their amelioration.

6.4 Potential

The obvious mind-stretching benefits of an utopian approach to physical planning will be of significance in general, not merely to members of the planning profession, but also to the decision-makers and the public at large. Individual, private "dreaming" and escapist fantasy are part of the human experience to varying degrees; the potential excitement generated by a formal professional and societal capacity for constructive, respectable utopian thought could be of major positive effect. Impact on the planning profession could be enormous and, if successfully developed, could give planners enhanced status and significance in society.

By formalizing an utopian aspect within the present physical planning paradigm, the profession sets the stage for the generation and systematic examination of a new and continuously-developing body of ideas, choices, options, alternatives; choices presently
not being generated, or subject to ridicule. Basic and applied research, it has been found, often generates surprising side-benefits which are not necessarily directly related to the main purpose. It is also a fact that by examining seemingly impracticable or even negative scenarios, important related issues may be raised which might otherwise not be considered.

Indeed, many of our advances come out of basic research, which, by definition, tends to produce serendipitous results for applications, since the research is directed not toward specific practical ends, but toward obtaining information and understanding about some important area. Basic research turns out to yield many important applications, but often in most unexpected ways...Serendipity often results from applied research as well: an application is found in a different field than the one intended. (Kahn, 1967, p. 68)

With decision-making becoming more decentralized, and with representative democracy giving way to participatory democracy, especially at a neighborhood level, it is probable that by opening up the planning process to include an utopian element, not only do the public have greater access to options and alternative directions in planning issues, they may participate directly in the generating of utopian scenarios themselves; after all, nowhere does it say that good ideas are the sole domain of trained professionals.

Finally, the introduction of an utopian design aspect to planning can do nothing but advertise and make explicit the fact that there is a longer-range future than that traditionally considered. If future generations of society, its natural resources, and the implications of much short-sighted behaviour are becoming of greater concern, a longer-range planning capacity will become an increasingly critical element in informed and enlightened discussion and decision-making.

6.5 Summary

The planning process could benefit from the inclusion of a utopian element in four
specific ways: (1) idea generation in general; (2) expanded project-specific choice of options; (3) anticipatory design-modeling capacity; and, most significantly, (4) a tested and visible methodology of approach.

The first, and most obvious, is that it would unleash a flood of new ideas, and, more importantly, it would encourage and ensure a continuous outpouring of such ideas. Regrettably it is generally much safer, in today's neo-conservative world, to suppress one's dreams and flights of fancy rather than appear eccentric and a possible career-risk (Meyerson, 1961). Secondly, the planning process, in its zest for perceived objective progress from the general to the specific on any given issue or project can tend to zero in too quickly on one course of action. While recognizing the need for expediency and efficiency, it is a fact that many alternative courses of action are often subject to merely superficial consideration. Thirdly, it is vital to realize that many forms and elements of the utopian designs of 50 years ago have contributed significantly to the reality of today's built environment; and further, that the utopian designs of recent years may influence the built environment of tomorrow. Design principles and alternatives do not materialize out of thin air to suit the occasion; design is an evolutionary process which matures and refines itself over a period of decades. To leave the future built environment in the hands of the relatively meagre design choices presently available is simply to short-change society. At a most pedestrian level, the incorporation of a controlled utopian approach to planning in a new and disciplined manner will do nothing but broaden the arsenal of planning techniques presently available.

Finally, the wealth of utopian case studies that is available provides a vast storehouse of ideas and methodology which illustrate clearly this unique approach. The practice of this art exemplifies, if nothing else, the relationship between thought and action; between idealism and reality; between goal and achievement; and between values and
built form. The utopian approach categorically makes explicit its contextual rationale, its initial premises, its terms of reference, and its objectives. It shows precisely the product designed to respond to these issues. It is, par excellence, a pure example of process.
CONCLUSION

It is the thrust of this thesis that the utopian approach to planning and design has much to offer in terms of a way of looking at issues and proposing graphic and written responses to those issues. The planning and design profession can gain from a formal recognition and incorporation of this imaginative and creative element into its paradigm of operation.

The specific designs reviewed illustrate concern with fundamental societal aspects which are identified, isolated, and dealt with in ways which may have significant impact on future built-form, as they have in the past. Planning has a social responsibility to anticipate future possibilities and explore and provide alternative options for consideration by the decision-makers of society. Utopian designs can act in a design-modeling capacity in this regard.

The built environment, and its subsequent technology, is a tool of society and, as such, should respond to its needs rather than limiting them. It is only through the correct balance of scientific rationale and artistic creativity, that the built environment can optimally fulfill this objective.
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APPENDIX: OVERVIEW, 1900 – Present

CITY OF THE FUTURE; Fritsch, Theodor; 1896.

Problem: Excesses of the Industrial Revolution; while cities and technology incubate new life, they also create disproportionate chaos and misery; rational decision-making should control city growth rather than chance and commercial opportunism; cities should serve higher end than economic progress.

Solution: Ring and radial road system emanating from existing central core; ultimate spiral form allows unlimited orderly future growth; roads define and separate land uses; no through traffic in residential areas; heavy reliance on pedestrian traffic; penetration of green space into built-up areas; varying residential densities. (Reiner, 1963)

GARDEN CITY; Howard, Ebenezer; 1898.

Reviewed in Case Study 3.2.
(Howard, 1898; Reiner, 1963; Batchelor, 1969; Fishman, 1977; Gallion, 1975; Hall, 1983; Jacobs, 1961)

INDUSTRIAL CITY; Garnier, Tony; 1904.

Problem: Classical geometrical principles of urban form development were inappropriate to the age of technology; insufficient attention was being paid to the opportunities of industrialization, especially in areas of hygiene and cleanliness.

Solution: Complete model town design; separation of land uses by greenbelts; elongated form to accommodate future growth; grid-pattern of residential areas with common central green-space uniting perimeter housing units; street hierarchy; centralized major public amenities, dispersed minor ones. (Wiebenson, 1969)

GARDEN SUBURB; Unwin, Raymond and Parker, Barry; 1907.

Problem: To decant residential use from industrialized cities.

Solution: Garden city decentralization principle except almost exclusively residential in use; extensive attention to landscaping and human scale (See "Garden City").

Comment: First notable success in Hampstead Garden Suburb as dormitory community to neighboring city; strong influence on successive residential decentralization without education-community focii. (Creese, 1967)

ROADTOWN; Chambless, Edgar; 1910.

Problem: Large city fragments man's ability to harmonize working, living, and playing; appropriate and available technology is not being taken advantage of to improve living conditions.

Solution: Urban-rural synthesis; linear development connecting existing urban centres serviced by underground mass-transit system; strip development of housing, interspersed with other uses; low density; close access to countryside; integration of live-work-play. (Reiner, 1963)
CONTEMPORARY CITY; Le Corbusier; 1922.

Reviewed in Case Study 3.3.
(Le Corbusier, 1929; 1933; 1947; Fishman, 1977; Reiner, 1963; Hu-Moore, 1984; Jencks, 1973)

REGIONAL PLANNING THEORY; A. Convey; 1923.

Problem: City planning should not limit expansion; growth is the health of the city.

Solution: Linear-radial network of transportation routes with ribbon development and core concentrations at intersections; low-density residential between served by descending hierarchy of streets; indefinite expansion capability. (Reiner, 1963)

THE INFLATION OF THE LARGE CITY; E. Gloeden; 1923.

Problem: Present city harbours travel inefficiency, impermanence and instability.

Solution: Specialized, self-contained living-working cells of fixed population and of pedestrian scale are linked together by mass transit to form city; greenbelts and agricultural space between cells and cities. (Reiner, 1963)

RADBURN; C. Stein & H. Wright; 1928.

Problem: Development of decentralized residential areas with sense of community, appropriate size, use; concern with pedestrian-vehicular interface.

Solution: Formularized approach to residential community layout focussed on education-communal facilities and continuous interlocking pedestrian landscaped areas; separation of pedestrian and vehicular circulation.

Comment: Successful prototype executed which has influenced successive developments to the present, with the primary exception of pedestrian-vehicular separation. (Reiner, 1963; Stein, 1966)

METROPOLIS OF TOMORROW; H. Ferriss; 1929.

Problem: City requires order for comprehension, ease of circulation, aesthetic appreciation, and the rational channeling of growth.

Solution: Concentrated high-rise central core of zoned business, science, and art activity radiating outward along transportation routes with ribbon development along and residential development between. (Reiner, 1963)

NEIGHBORHOOD UNIT; C. Perry; 1929.

Problem: Growing vehicular congestion, slum dwellings, and breakdown of the social order.

Solution: Residential communities focussed about education and shopping facilities with internal pedestrian circulation and perimeter vehicular traffic; percentage of total land dedicated to community use.

Comment: Seminal but oversimplistic formula-like approach which, easy to comprehend and apply, has formed much of the basis for suburban residential community planning to date. (Perry, 1929; Reiner, 1963)
BROADACRE CITY; F. L. Wright; 1932.

Reviewed in Case Study 3.4.
(Wright, 1958; 1960; Fishman, 1977; Hu-Moore, 1984; Reiner, 1963)

RUSH CITY REFORMED; R. Neutra; 1934.

Problem: Cities are too heterogeneous and do not enhance sense of community.

Solution: Grid system of superhighways links large homogeneous neighborhood units, relying heavily on private automobile circulation. (Reiner, 1963)

RESIDENTIAL SECTOR; T. Adams; 1934.

Problem: Existing cities are too heterogeneous in land use, and not rationally planned for ideal residential environments.

Solution: Compact urban core with radial-circumferential circulation infilled with low-density single-family housing; residential areas patterned after "Neighborhood Unit" theory.

Comment: As one of the first proponents of city-planning in Canada, Adams' moderating influence has been of considerable impact in initiating zoning and decentralization practices throughout the country. (Reiner, 1963)

GREENBELT TOWNS; R. G. Tugwell; 1935.

Problem: Post-depression North America needs to address mass rural-urban migration, unemployment, and ensuing poverty.

Solution: Series of dormitory residential communities linked with and located adjacent to existing urban centres, which would provide not only housing but mass employment during construction; form based largely on Neighborhood Unit principles.

Comment: While only partially successful in implementing his post-Depression construction program for thousands of Greenbelt Towns across the U.S.A., Tugwell's influence, through his minor realizations, has been of major influence throughout North America. In conjunction with Howard's Garden City principles, Tugwell's approach is reflected in such achievements as Don Mills, Ontario, the post-War Canadian housing program, and the Regional Town Centre plan for the Greater Vancouver Regional District. (Myhra, 1974)

A PROGRAM FOR CITY RECONSTRUCTION; Walter Gropius & Martin Wagern; 1943.

Problem: Post W.W.I European economic collapse, unemployment, urban population growth, and traffic congestion.

Solution: Urban-rural synthesis achieved by pedestrian-scaled living-working communities of limited size interconnected by transportation networks. (Reiner, 1963)
THEORY OF CITY PLANNING; H. Herrey, C. Portzoff, E. M. Herrey; 1944.

Problem: Post W.W.II future urban growth and reconstruction, and traffic congestion; lack of community sense.

Solution: Series of pedestrian neighborhoods with perimeter vehicular traffic and central concentrations of green space and community facilities. (Reiner, 1963)

HUMAN SCALE IN CITY PLANNING; J. L. Sert; 1944.

Problem: Post W.W.II Europe, unorganized cities, lack of adequate social structure.

Solution: Segregated land-use, high-density apartment concentrations within open space are linked in hierarchical fashion to linear core development. (Reiner, 1963)

LINEAR CITY; Le Corbusier; 1945.

Problem: Post W.W.II Europe reconstruction, disorganized transportation, suburban sprawl.

Solution: Living-working specialized activity pedestrianized towns organized about linear manufacturing facilities; urban cores occur at network intersections. (Le Corbusier, 1929; 1933-1947; Reiner, 1963; Fishman, 1977; Hu-Moore, 1984; Jencks, 1973)

THE REILLY PLAN; L. Wolfe; 1945.

Problem: Post W.W.II England reconstruction, weak standards of planning and housing authorities.

Solution: Very small residential neighborhoods set in open space with community facilities about a central green. (Reiner, 1963)

NEW CITIES FOR OLD; L. Justement; 1946.

Problem: Ad hoc development results in wasted natural resources, and transportation inefficiencies.

Solution: Urban core radially connected to series of ring-road development infilled with hierarchical residential densities. (Reiner, 1963)

NEW CITY PATTERNS; S. Sanders & A. Rabuck; 1946.

Problem: Post Depression, W.W.II growth and reconstruction of North American high-density slums.

Solution: Radial-ring road plan from urban core, composed of defined, varied-density residential sectors separated by green space. (Sanders, 1946; Reiner, 1963)

COMMUNITAS; Paul Goodman & Percival Goodman; 1947.


Solution: Three radically different schematic proposals are developed as modeling approach to reconciling values with plans.
Comment: A potential breakthrough in planning whereby utopian design is harnessed within the overall city-planning process as a modeling tool, the Goodmans' publication received enormous recognition in its time, but seems to have been almost totally ignored ever since. Periodically, their approach is commented upon, but to date no formal work has been done to pursue their proposed addition to planning methodology. (Goodman, 1947; Reiner, 1963; Meyerson, 1961; Reisman, 1947)

MAN AND TOWN; A. Klein; 1947.

Problem: Heterogeneity of land use coupled with traffic imposition on community life.

Solution: Hierarchical zones of land use in grid format; minimal intrusion of automobile into residential neighborhoods; fixed ultimate size to each town limited by circumferential industrial development. (Reiner, 1963)

METRO-LINEAR; R. Malcolmson, 1956.

Problem: Post World War II expansion requirements coupled with increasing use of private automobile.

Solution: Geometric approach dictated by dominant transportation network; largely agricultural focus for single-family housing. (Perry, 1964)

SPATIAL TOWN; Y. Friedman; 1957.

Problem: Post World War II expansion requirements; lack of resident input into evolving city form.

Solution: Skeletal structural/service framework with opportunity for habitants to design and infill individual dwelling units, as well as having a voice in future direction of city growth and change. (Perry, 1964)

DYNAPOLIS; C. Doxiadis; 1960.

Problem: Concern over effect of decentralization and suburbanization on central city decay; present planning does not explicitly recognize or rationally address core expansion and change.

Solution: Open-ended city planning allowing for linear future development of city centres to a point where ultimate merging can form a more dynamic continuum than presently achievable. (Doxiadis, 1960; 1966; 1967; 1976)

ARCOLOGY; P. Soleri; 1960.

Reviewed in Case Study 4.4.
(Soleri, 1969; 1971)

TOKYO BAY CITY; K. Tange; 1960.

Problem: Discrepancy of sensitivity between man and technology, and discrepancy of life-spans of physical components of city.

Solution: Linear megastructural approach over water or reclaimed land for structure, fixed services, and mass transportation; individualized, changeable housing units and other functions within megastructure. (Perry, 1964)
URBATECTURE; J. Lubicz-Nycz; 1960.

Problem: Continuous desecration of natural environment since Industrial Revolution by expansion, pollution, and general lack of planning.

Solution: Organic organization of city along natural lines of form, order, integration, life-cycles. (Perry, 1964)

GROUP FORM; F. Maki; 1960.

Problem: Compositional or Megastructural approaches to city form are limiting, impractical, and do not reconcile technology with human values.

Solution: Grouping of like function/forms about broad themes such as "gathering", "vista", or "milling" to ensure compatibility of use, scale, and character. (Perry, 1964)

MARINE CITY; K. Kikutake; 1960.

Problem: Since the Industrial Revolution, man has advanced to the point of independence from the land.

Solution: Independent mega-form living structures which contain integral manufacturing and prefabrication plants to continually build and reassemble city as required. (Perry, 1964)

WALL CITY/HELIX CITY; N. Kurokawa; 1960.

Problem: Cities do not have sufficient planning flexibility to adapt to changes in life-style and accessibility.

Solution: Megastructural system for services, transportation, and other fixed long-life elements, within which changeable living-working units are accommodated. (Perry, 1964)

MOTOPIA; G. Jellicoe; 1961.

Problem: Misuse of land through suburban sprawl and domination of vehicular traffic requirements.

Solution: Rigid grid of multi-storey multi-purpose living/working buildings whose roof forms road and traffic-circle network; large tracts of open landscaped space between network is devoted to active and passive recreational/cultural use. (Jellicoe, 1961)

SPATIAL CITY; E. Schulze-Fielitz; 1961.

Problem: City planning is neither desirable nor possible due to inability to anticipate a future condition.

Solution: Conglomeration of diverse and flexible spatial structures which can adapt themselves gradually to future needs, including growth and contraction. (Perry, 1964)

Problem: The existing city is unable to adapt appropriately to changing forms and intensities of human need.

Solution: Open-ended non-dimensional hierarchical system of development which accommodates a variety of scales of form, size, and time-span. (Perry, 1964)

PLUG-IN CITY; Archigram; 1964.

Reviewed in Case Study 3.3.2.
(Cook, 1972)

INTRAHAUS; W. Jonas; 1965.

Problem: Existing cities are incapable of reconciling efficient use of land, a sense of community, and a need for light, air, and green space.

Solution: Size limitations for centralized neighborhoods complete with highly-articulated boundaries; specified combinations of neighborhoods form cities. (Perry, 1964)

HABITAT; M. Safdie; 1967.

Problem: Low-density suburban development of cities is wasteful and socially inappropriate.

Solution: High density urban concentration in low-rise configuration which reconciles suburban privacy, open space, and identity with heightened efficiency, conveniences, and social contacts.

Comments: Hugely accredited initially as a demonstration project for Expo 67 in Montreal, the building has received nothing but criticism since due to construction costs which were outrageously high for conventional housing, although totally justifiable as a prototypical/research project. It is conceivable that in the future, this approach to higher density but low height housing may prove growingly more acceptable to the marketplace, particularly in urban core/infill situations. (Spring, 1967)

SWING CITY; R. Kemble; 1968.

Problem: Present cities are social failures whereby elitist power groups combine with and fuel mass conservative banality in urban development.

Solution: A utopian-model approach to stimulate discussion, this proposal suggests an organic, ever-changing dynamic of almost anarchic proportions within a hypothetical structural/service framework; an approach which recognizes old-new co-existence and considers decay and dismantling as positive forces.

CIVILIA; I. de Wofle; 1971.

Problem: Rejection of wasteful suburban sprawl as well as condemnation of artificiality and coldness of British New Towns.

Solution: Re-concentration of new development into cities with a minimum concentrated population requirement of ½ million, where high densities of like use will ensure maximum opportunity for good city life. (de Wofle, 1971)
OVERSTREET; H. Meyerovitch; 1973.

Problem: Inherent waste of land through adjacent/parallel development of streets and buildings.

Solution: Essentially a simplified low-scale megastructural proposal for building over street rights-of-way, both as new construction and as infilling existing developed urban and suburban. (Meyerovitch, 1973)


Problem: Existing cities promulgate pollution and inefficient use of land resources.

Solution: Enclosed, climate-controlled city which incorporates mass transit, electric automobiles, bicycle and pedestrian circulation and total re-cycling. (Dantzig, 1973)

ENTOPIA; C. Doxiadis; 1974.

Reviewed in Case Study 4.3.
(Doxiadis, 1960; 1966; 1967; 1976)

A PLACE UTOPIA; K. Lynch; 1981.

Problem: Utopias do not take into account both spatial and societal issues together; they invariably address one or the other.

Solution: Settlements are varied-purpose lower-scale recycled urban centres conventionally interconnected throughout, with decentralized communitarian development along and between networks.

Comment: It is interesting to note that Lynch, whose published works more often than not attempted to deal quantifiably with urban quality, sought, in his last book, to introduce the notion of utopian design almost purely as a methodological tool for advancing the qualitative aspects of urban planning. (Lynch, 1981)