

THE UNIVERSITY OF MANITOBA

THE NO. GROWTH MOVEMENT AND ITS IMPLICATIONS
FOR URBAN PLANNING

by

Michael F. Ryan

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DEDICATION

To Lillian, who not only typed the first draft of this thesis and patiently made all the corrections my changing thoughts necessitated, but also helped with many aspects of the initial research. And to Stephen and Andrew, whose delightful innocence provided a constant and welcome respite from the persistent demands of this challenging experience.

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PREFACE

I first became aware of the concept of no growth in a planning theory class, where some of my basic research into the topic began. Sometime later I attended a Canadian Association of Planning Students Conference sponsored by the University of Waterloo where the principal theme again was no growth. As my interest in the topic grew, I became increasingly aware that this was a subject of immense proportions, and with potentially significant implications for planning at all levels.

I also discovered that the subject was so timely that it was almost impossible to maintain a contemporary focus on recent developments and at the same time isolate the subject for study. Throughout the research period newspapers and periodicals carried numerous articles on topics such as the "bleak decade" forecast for Winnipeg, the slowdown anticipated for national economic growth in industrialized countries, the constantly fluctuating assessment of the "energy crisis" and what its implications were for future growth and development, and so on.

It was therefore partly out of necessity, as well as a personal interest and preference in this approach, that I chose to study the no growth movement as an historical, evolutionary concept, in order to place the recurrent themes in the literature in some kind of historical perspective. Having gained this basic understanding of the underlying themes which suggest no growth as an alternative to unconstrained growth, I then felt it was important to consider some alternative concept which was responsive to each of these themes. This led to my research into the concept of the steady state

economy as it has been described by Herman E. Daly.

In the end, my pragmatic inclinations led me to bring the subject just one step further, as I recognized that this area of study was so important that it did indeed have implications which could surface at virtually any level of government and within any planning jurisdiction. Again, it was partly out of necessity to limit the scope of the study that I chose to focus this practical orientation on the local, urban level, while recognizing that there is still ample scope for further research and study in the many interrelated disciplines I have only been able to touch on here.

CHAPTER I
INTRODUCTION

The no growth issue is one that has generated widespread interest and debate in recent years. It is the intention of this thesis to first analyse the principal factors and themes in the literature which have contributed most significantly to the growing interest in this area. These have been identified as:

a. Environmental

This is the theme which traces the historical perspective of the relationship that has existed between man and his perception of and relation to the natural environment. It develops the historical evolution of environmental consciousness from its teleological origins, through the anthropocentric mode, to its eventual biocentric expression.*

b. Physical Limits to Growth

The central premise of this theme is that growth cannot continue indefinitely because of the purely physical constraints of finite resource depletion and the limited tolerance and absorptive capacity of the biosphere to withstand excessive environmental degradation. The examination also considers whether conventional

* In the context of this thesis, teleological refers to the understanding that there is a design, purpose or final intention directing natural processes. Anthropocentric refers to the assumption of man as the center or ultimate end, while the biocentric view centers on the biosphere and the life cycles that exist within it as the central element.

feedback mechanisms are sufficient in themselves to bring about the necessary adjustments, and whether technological advance can keep pace with the growing demands that will be placed upon it.

c. The Economics of Growth

This theme centers around the recognition of a growing awareness and dissatisfaction with the product that continued, unchecked economic growth delivers. The contention is that the conventional measure of Gross National Product is a poor indicator of economic welfare, and that economic growth provides no guarantee of social equity. It recognizes that growth and material acquisition satisfy a small and isolated component of overall well-being. And, it relates back to the previously mentioned themes of environmental awareness and physical limits, with the observation that a high-throughput economy in a throw-away society is incompatible with the notions of resource limitations and environmental concern.

d. The Incidence of No Growth

This theme addresses both the proven and projected incidence of metropolitan no growth and recognizes that the process of urbanization, coupled with certain identifiable demographic trends, will combine to produce a growing number of metropolitan areas which can anticipate stability or decline in the years and decades ahead.

Having identified and analysed in some detail these principal themes which underly the no growth movement, the thesis will then go on to formulate

a theoretical framework which responds to each of these areas of concern, and towards which no growth planning responses and strategies can be focused. The theoretical construct which responds to these themes and which represents the no growth society in practice, is the steady state economy. Describing the characteristics and institutions of the steady state, with no implication of its inevitable occurrence, facilitates the formulation of planning strategies and approaches which can accommodate the four principal areas of awareness and concern in the no growth debate.

In the concluding segment the thesis will go on to identify some of the implications of these observations for planning, with particular emphasis on the urban and local community level. This starts from the premise that implicit assumptions about growth and development underlie much planning theory. The alternative environment of a no growth scenario is consequently a difficult and unfamiliar setting in which the planner is required to function. The suggestion at the outset, however, is that no growth is a planning alternative which the profession should be prepared to respond to, whether it is forced upon the community, or is chosen by the community in the interest of preserving a certain way of life and set of values.

DEFINITIONS

In much of the literature related to no growth, one recurrent characteristic is the inconsistency among various authors in their use of the term no growth. It is even difficult to find any consensus on the proper spelling, with different authors employing such variations as "non-growth", "nongrowth", "no-growth", "anti-growth", and the like. For consistency throughout this text

the spelling which has been adopted is simply "no growth", except where a specific quote is taken from a source which employs a different spelling. The definition of the term as it is employed in this thesis is as follows:

No Growth

- "The concept which expresses the understanding that the rate, amount, location, and type of future growth have become items of open and legitimate public concern. Growth has become a variable, one that can be influenced by public policy in pursuit of a better quality of life. A number of managed or controlled growth options are being considered, including, in some cases, the temporary or permanent stopping of growth."¹

There is less confusion in the use of the term "steady state", although again, some authors prefer such variations as "stationary state", or choose to hyphenate the two words. In this thesis the spelling which has been adopted is the "steady state", with the steady state economy defined as follows:

Steady State Economy

- "an economy with constant stocks of people and artifacts, maintained at some desired, sufficient levels by low rates of maintenance "throughput", that is, by the lowest feasible flows of matter and energy from the first stage of production (depletion of low-entropy materials from the environment) to the last stage of consumption (pollution of the environment with high-entropy wastes and exotic materials)."²

Footnotes

¹Earl Finkler, William J. Toner and Frank J. Popper, Urban Nongrowth: City Planning for People (New York: Praeger Publishers, 1976), p. 1.

²Herman E. Daly, Steady-State Economics (San Francisco: W.H. Freeman and Company, 1977), p. 17.

CHAPTER II

THEMES IN THE NO GROWTH DEBATE

As an introductory prelude to a fuller understanding of the no growth movement, it is important to consider the genesis of ideas which are recurrent in the literature and which suggest no growth as an alternative to limitless growth for Western society. The four themes which will be discussed separately are: the evolution of the environmental ethic, physical limits to growth, the economics of growth, and the proven and projected incidence of no growth. Based on some preliminary assumptions, projections, and values, they independently argue that no growth is either necessary, desirable, or inevitable. Taken together, they constitute a strong and coherent position that no growth is not simply a passing fad, but a serious issue which has equally serious implications for planning.

Evolution of The Environmental Ethic

In his Sand County Almanac Aldo Leopold outlines the evolutionary extension of ethics to the third element in the human environment, the land and the life upon it. The first ethical interpretations dealt with relations between individuals; the second, between the individual and society. The third step in the sequence, the ethic that relates man to the land, is in Leopold's view "an evolutionary possibility and an ecological necessity."¹ In order to better comprehend the true evolutionary nature of this extension of ethics and to place it in its proper historical perspective, it is helpful to briefly trace the development of the relation of Western man to his environment from earliest times to the present.

This implies something of an understanding of man's attitudes towards the natural environment, a concept that is difficult to evaluate in the present and even more difficult to extrapolate and to speculate upon into earlier times. Even if one simply acknowledges that man's attitudes are reflected through his actions, the correlation becomes at best debatable and at worst so generalized as to be meaningless. This is well exemplified by the following two interpretations of early man's attitudes toward nature. The first is that "primitive man was no better in his attitude toward his environment than we are today and that the concept of primitive man living in harmony with nature is a serious distortion of the facts."² Rather than attributing an early concern for the environment to an attitudinal base, Guthrie attributes it to a trial and error mentality, with pollution a perfectly acceptable practice so long as it did not threaten the immediate

society. In modern times, all that has changed are the size of the population and the sophistication of technology, not man's attitude. The second interpretation of early man's attitudes towards nature is found in Clarence Glacken's "single most important generalization that these varied greatly throughout the long span of ancient history."³ This is probably the more plausible position, even though it makes the task of identifying a certain attitude with specific historical developments almost impossible. Therefore, the intent of this historical trace will be not to identify the attitudes of the times, but rather to simply record the ideas and events of each successive period, which lend credibility to Leopold's description of the extension of ethics to the natural environment as evolutionary in nature.

There is little doubt that primitive man, if he was not living exactly in harmony with nature, was very much a part of it. His daily survival was directly related to his manipulation of crude tools and weapons, the use of fire, and a nomadic lifestyle that followed, quite literally, the nomadic pattern of the animals he hunted. With the development of settled agriculture and the domestication of certain animals, man switched dramatically from the nomad to the civilized being. The first large scale experiments in organized civilization had begun, and gradually led to the growth of communities, differentiation of skills and vocations, the growth of written language and an expansion of knowledge. As the early civilizations grew up along the river valleys of the Nile and Euphrates, the Indus and The Yellow River, the growth of culture, and man's observation and interpretation of the world around him, started to emerge. And in Hippocrates' Air, Water, Places in the

fifth century B.C. one finds the first formulation of the environmental idea.⁴

Following Hippocrates, the classical political theorists, Plato and Aristotle, Panaetius and Poseidonius, and Cicero, taught, recorded and passed on their influential interpretations of the world around them. Plato (428/427 - 348/347 B.C.) although not the first writer to advance teleological ideas, was the first to see the creation of the cosmos "as the work of an intelligent, good, reasoning and divine artisan."⁵ This synthesis had evolved from the dual notions of God's care for the world, and the idea of the unity and harmony evident in the universe. Panaetius (c. 180 - 109 B.C.) fused the ideas of "esthetic and utilitarian attitudes towards the earth. It is beautiful and it is useful," two simple characterizations that "explain much of the subsequent history of attitudes towards it,"⁶ ideas which reappear in Cicero's (106 - 43 B.C.) De natura deorum.

Thus, according to Glacken, "the roots of modern attitudes toward nature are to be found in the Hellenistic age" (defined as the period from the death of Alexander in 323 B.C. to the founding of the Roman Empire by Augustus in 30 B.C.) "rather than in earlier periods."⁷

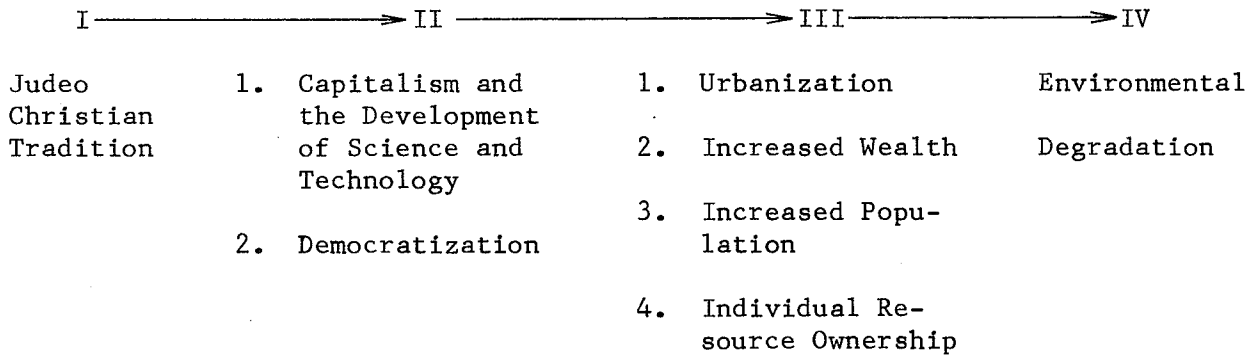
In the period immediately following the birth of Christ, Glacken states that "there is little of substance to record of environmental theories in the early Roman Empire after the time of Strabo (64 B.C. - A.D. 24)"⁸ This is in reference to pure environmental theory however, and should not be taken as

ignoring or underestimating the significant influence of traditional Judeo - Christian teachings and attitudes toward nature which have had a profound impact on Western civilization. Glacken attributes the notion of stewardship to the Christian influence, the idea that stewardship is a part of the "responsibility that a temporary sojourner on earth has toward posterity."⁹

A second and additional interpretation of the Christian influence is that it is a "Christian axiom that nature has no reason for existence save to serve man," that in antiquity, every tree, spring, stream and hill "had its own genius loci, its guardian spirit." Before one cut a tree or otherwise disturbed the natural setting, "it was important to placate the spirit in charge of that particular situation, and to keep it placated. By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects."¹⁰ Thus the Christian influence can be perceived in this simplified stage both in the notions of stewardship and exploitation.

The final word on the significance of the Christian tradition on environmental attitudes in Western society will be given to L.W. Moncrief. He places our Judeo - Christian heritage in historical perspective as an influence which has contributed to environmental degradation, but only as one element which has blended with several other important developments. Thus he claims that "America is the archetype of what happens when democracy, technology, urbanization, capitalistic mission and antagonism (or apathy) toward natural environment"¹¹ are combined. Rather than identifying the Judeo - Christian

tradition as being the sole source of our environmental crisis, Moncrief offers the following model to trace the origins of our present state of environmental degradation:



The teachings of Christianity, while not the sole element, have nevertheless made a significant contribution.

In the second century A.D. Claudius Ptolemy shows the linkage between environmental and astrological theories, and in the fourth century A.D. Servius "brings together theology, physical theory, and a theory of environmental influence into a consistent whole that explains the unity and diversity of life."¹² In analysing this period as a whole then, it can be said that these Greek and Roman notions of environmental influence, "came closest to giving philosophical significance to the environmental changes made by men. If the earth was divinely ordered for life, man's mission on earth was to improve it."¹³ The dominant theme throughout the period is clearly teleological.

In the early part of the Middle Ages, human activities were still of such limited scale that no dramatic changes were made in the physical en-

vironment. The dominant idea of the times was that man, through work, assisted God and himself in the improvement of his temporary earthly abode. "The most compelling reason for the observation and study of nature was that it led to a greater understanding of God."¹⁴ The most important contributors to the development of these ideas were St. Basil (330 - 379), St. Ambrose (c. 339 - 397) and St. Augustine (354 - 430).

In these early centuries, agriculture and subsistence farming were the chief occupation. The early plows were drawn by two oxen, pulling a blade that barely scratched the soil, a practice that was suitable for the Mediterranean climate, but inappropriate in the soil and climate of Northern Europe. By the end of the seventh century, the northern peasants had developed a heavier digging plow pulled by 8 oxen; since no peasant owned 8 oxen, the community pooled their animals, and land distribution was altered, so that it was based no longer on the needs of one family but on the capacity of the power-machine to till the earth. This simple development is highly significant, for it meant that man's relation to the soil was profoundly changed; formerly, man had been a part of nature; now he was the exploiter of nature. The idea was that "man and nature are two things; and man is master."¹⁵ This attitude began to exhibit itself in the next few centuries, as man fashioned an increasing array of devices from the natural environment to serve his needs and simplify his work. Thus, "from simple beginnings, the West expanded its skills in the development of power machinery, labour saving devices, and automation."¹⁶

A strong departure from the "man is master" theme is found in the person of St. Francis of Assisi (1182 - 1226), "the greatest radical in Christian

history since Christ."¹⁷ With St. Francis man is not in a monarchy position over creation, but is rather in communion with nature, sharing the earth with all God's creatures. However, St. Francis is a notable departure from the dominant ideas of the time.

St. Thomas Aquinas (1225 - 1274) in his Summa Theologiae lists five arguments proving the existence of God, the fifth being derived from the order and governance of the world, and the regularity in natural bodies, which prove direction by a knowledgeable and intelligent being; "man rules over the hierarchy of beings lower than he is, simultaneously adapting benign nature to his manifold uses."¹⁸

Teleological notions are still central to much of the writing of this time, however, and if a single generalization can be made it is that the "significance of this period as a whole is its preoccupation with creation."¹⁹

There was little of originality in the writings that came forth from the Middle Ages on the environmental theme. The time was characterized by small scale creation of new towns and farmland, clearings made for monasteries, and the like, which had nothing of the impact and permanence of environmental changes made by man in later centuries. Many men, widely scattered and at different times, made changes that were local in character. The monasteries were especially significant in that they were usually founded in remote sites where a self-subsistent lifestyle of work, farming and a religious discipline contributed to the regaining of a "dominance over nature which had been denied man since the Fall."²⁰

By the end of the fifteenth century the technological advances which had been made in Europe enabled it to expand its horizons westward and open up new lands to be conquered and colonized. The Age of Discovery brought with it the tales of the voyagers, and renewed faith in the belief that the world truly was the work of a divine artisan. The world was larger and more full of wonders than had previously been imagined. The contact with vastly different peoples in the new lands also gave rise to an increasing awareness and importance being attributed to the notion of environmental influence, an idea that had been first formulated in the time of Aristotle.

Following the voyages of discovery, in the period from the end of the fifteenth century until the end of the seventeenth century, the idea of "man as a controller of nature (begins) to crystallize along more modern lines."²¹ In 1543, Copernicus (1473 - 1543) and Vesalius (1514 - 1564) published their great works. Francis Bacon (1561 - 1626) was noted for his formulation of the scientific method and "the Baconian creed that scientific knowledge means technological power over nature."²² Kepler (1564 - 1642), Newton (1642 - 1727) and Boyle (1627 - 1691) "kept alive the spirit of teleology and design in nature."²³ Indeed, "from the thirteenth century onward, up to and including Liebnitz and Newton, every major scientist, in effect, explained his motivations in religious terms," and it is not "until the late eighteenth century that the hypothesis of God becomes unnecessary to many scientists."²⁴

This great surge of discovery which occurred toward the end of the seventeenth century was "due to a change of approach and method," a development composed of three elements; 1. a new emphasis on useful knowledge, 2. the idea of the repeatable, controlled experiment, and 3. the emphasis on devising

means of reliability.²⁵ The influential concept of nature was the mechanistic view; mathematics and the work of Galileo (1564 - 1642), Descartes (1596 - 1650) and Newton, and inventions such as Fahrenheits' (1686 - 1736) thermometer, all contributed to the thrust to understand the universe in geometrical terms. Finally, by measuring steam and putting it to work, James Watt (1736 - 1819) in the 18th century powered the cotton looms in Lancashire and inaugurated the Industrial Revolution.

In the eighteenth century another distinct idea emerges, with the publication in 1798 of Thomas Malthus' (1776 - 1834) Essay on the Principle of Population. The theme is that, because population increases geometrically while the capacity to produce food increases only arithmetically, the earth itself sets limits to population growth. His observations were important also in that they showed that "the assumptions of those who believed in the inevitability of progress in all phases of human activity were in need of re-examination."²⁶

Charles Darwin (1809 - 1882) was important to this discussion in that he contributed the idea of "the concept of balance and harmony in nature, the web of life, and then to the recent concept of an ecosystem."²⁷ His theory of evolution "provided men with a way of reducing the higher to the lower, a magical formula to apply everywhere in order to explain things without the need to recourse to any higher principles or causes."²⁸

As the pace of successful measurements quickens the whole table of elements is discovered between 1770 and 1870. Throughout the 17th and 18th centuries, "there was a growing optimism that man's accumulating know-

ledge was increasing his control over nature."²⁹ The spectacular changes brought on by the Industrial Revolution were just beginning to emerge. A practical and utilitarian orientation prefaced man's works, which sought "to destroy any vestiges of a contemplative view toward nature that still survived."³⁰ "The earth had become definitely and exclusively the goal of man there was no longer anything but the agreeable or disagreeable, the useful or the useless, whence the anarchic and irresponsible development of the experimental sciences."³¹ The transformation from the teleological to the purely anthropocentric view had occurred.

Throughout this 2300 year period there were essentially three themes which predominated in most of the great works which were produced. "The idea of design in nature" looked upward and "focused attention on God as artisan, man and nature being in the subordinate position as the created. The idea of environmental influence centered on nature", and the force and strength of natural conditions. "The idea of man as a modifier of nature, however, centered on man," and his creativity and activity in nature."³² At this point in history, the rise to the pinnacle of anthropocentrism seems to reach a peak. From this point onward, man's perception of his worldly environment and his ability to change it are tempered by a heightening awareness that the effects of his actions on the environment can also have negative and damaging impacts.

Towards the middle of the 19th century, it became clear that many of the works of man had disastrous effects both on the environment and on other men. Friedrich Engels' description of the condition of the working class in London, and the high incidence of disease and filth in the industrialized

neighbourhoods, and the pollution of the air and waters of the working class towns, is a strong theme in the writing and debates of the period. Charles Dickens, a contemporary of Engels, also displayed a deep sensitivity to these same conditions in a number of his works. It is from this awareness, in the late eighteenth and early nineteenth centuries, and following very closely some unprecedented successes in agriculture, drainage, engineering and industrialization, that one finds some early observations on the modern themes of pollution, climate, and ecology.

At this point too, the source of many of the ideas which influence Western society had shifted to the other side of the Atlantic. Most of North America had broken its colonial ties, and the continent was emerging as a dominant force of influence in all fields of human endeavour, including environmental thought.

"From the late eighteenth to the mid-nineteenth century, the literature relating to conservation increased both in scope and in depth; there has been no break in the continuity since those times."³³ However, "despite its volume and scope, there was no real synthesis of this literature until George P. Marsh published in 1864 Man and Nature: or Physical Geography as Modified by Human Action."³⁴

The reason for this is clear. In the early Colonial Period in the United States (1626 - 1776) a vast land, with an abundance of natural resources, engendered a spendthrift attitude toward nature whose influence was felt for several succeeding generations. In the first century following Independence came the period of expansion into the interior, as individuals were granted