Mary-Ellen Tyler emphasizes the ecological context of future planning. Warning us about the "myth-information" that can all too easily mislead us in this new age, Tyler highlights the question "What are we planning for?" We must now plan not so much for an urban "environment" as for an urban ecology, and we must make this kind of planning "human nature." Tyler focuses attention on innovative demonstration projects that embody the necessary type of "how" in response to her primary interest in "why."

Selon Mary-Ellen Tyler, l’urbaniste de l’avenir tiendra compte du contexte écologique. Devant le danger que représente l’incertitude qui peut affecter la profession, elle s’interroge sur le rôle de l’urbaniste. Il ne s’agit plus d’aménager un environnement urbain mais d’encourager une écologie urbaine qui tienne compte de la nature humaine. Elle décrit certains projets innovateurs qui pourraient offrir des éléments de réponse sur les méthodes à adopter.

Ecological Planning in an Age of Myth-Information

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The end of planning?
Be it resolved... "Chicken Little" was right! As we enter the twenty-first century, it would appear from the postmodern cyberpace discourse of North American popular culture that the paradigmatic "sky," which has so faithfully upheld the conceptual framework of rational economic planning, is falling. The advent of the new millennium brings apocalyptic expectations and speculations about new beginnings and dramatic endings. In her 1996 book Postmodern Urbanism, Nan Elfin neatly summarized the "end of everything" as: the end of work, ...the end of modernity, the end of taboos, the end of affluence, the end of intelligent writing, the end of Christendom, the end of British politics, the end of comedy, the end of sex, the end of libraries, the end of law, the end of art, the theory, the end of beauty, the end of conversation, the end of organized capitalism, the end of desire ...the end of cities, ...the end of suburbia, ...and the end of public space. (26)

Any speculation about the "end of planning" would seem to be in good company. By the end of the twentieth century, Jurgen Habermas's "crisis of legitimacy" became endemic to all disciplines and professions dealing with society. If architects are no longer required in order to construct buildings, and master plans and planners are no longer central to the economic governance of space, then indeed, as Marshall Berman put it in the title of his 1982 book, "All That is Solid Melts into Air."

Distinguishing the physical manifestation of the "rational" North American city in the 1950's from that of the post-pre-millenium city in the 1990's seems to involve not much more than identifying a difference in scale. The sameness remains despite the presence of more roads, sewers, buildings, taxes, suburbs, solid waste, energy consumption, and disparity between "haves" and "have nots." This situation of plus ça change plus c'est la même chose should not be entirely unexpected: doing the same thing over and over again while expecting different results is either a definition of insanity or an overview of municipal development planning in the last forty years.

The passionate assertion in Castells' article that planning is, above all, a professional practice represents a well-established position. However, this is a "good news/bad news" proposition that bears some reflection. Practice is not a hermetically sealed act that happens in a value-free, objective and rational state of grace. Planning practice and professional practitioners must be informed by "something." If in practice that something is nothing more than short-term economic thinking and local political expediency, we have a collective problem. Dave Witty's "snapshot" survey of Canadian planners, published in Plan Canada in July 1994, suggests that practice does not always make perfect. For example, 64% of respondents felt that "more and more, planning is facing conflicts of competing interests." A further 54% felt that "planning is too often compromised by the politics of place."

The tradition of professional planning has long claimed its legitimacy on the basis of "How" planning is done. Much of this instrumentalism has been fixed and delineated in municipal development plans, policies, regulations, and procedures pursuant to provincial legislation. The question "Why plan?" seems to have been left to what Castells refers to as "useless free-floating speculation in a shrinking academia." However, the absolutely critical question of "What are we planning for?" seems to have been entirely side-stepped by both practitioners and theorists. Chicken Little's bailed life may have revealed a few shortcomings, but at least she appears to have understood the value of environmental scanning. The reasons for and purposes of planning would seem to be naturally linked to such environmental scanning exercise. What better time to scan the externalities bearing down upon us than at the beginning of a new millennium, and at the dawn of postmodern planning? Are we planning for cyberspace? Environmental sustainability? Ecologically and economically appropriate infrastructure? The reconstruction of social meaning in spatial form? Governance on-line? E-commerce? Climate change? Energy efficiency? Work at home? Cultural diversity? Or are we planning for the 1980's (again)? Smoke-stack chasing economic development? The lowest taxes? None of the above? All of the above?

The myth-information age
We are mistaen if we think that the "Information Age," in the literal sense of the term, is only now beginning. From the perspective of human history, we have always lived in the world by means of the cognitive and bio-chemical processing of information, and the assignment of values and meaning to information. For example, culture creates the meaning, and communication systems through which we interact in our environmental context. Information is encoded into the DNA of all living things. Physics recognizes energy, matter and information as the three fundamental components of the universe. However, it is not information per se, but the medium in which information is given meaning, that has truly transformational potential.

"Meaning" and "value" are two inherent dimensions of information of specific interest to planning. Social "mystery" information is central to all cultures as a means of value transmission. Its prevalence and influence have been popularly described by anthropologist Joseph Campbell. Cultural myths serve to demonstrate that people and societies have been "informationally connected" for thousands of years. Over thirty-five years ago, communication theorist Marshall McLuhan coined the famous slogan "the medium is the message," and distinguished between meaning as created through electronic visual media, and meaning as created by linear text. Information is not a generic commodity; all information is not equal. Ultimately, it is the user of information that gives meaning and value to it, in different mediums and contexts.

One of the biggest myths in planning has been that the more information (preferably the "run the numbers" kind), the better the decision-making. This persistent myth assumes a certain scientism or logoscentrism that continues to beg the questions: What information is important? Whose information is important? And, perhaps most importantly, who decides?

Guns or butter?
In March of 1990, the Roper Poll in the United States conducted a survey of public concerns about the environment for the U.S. Environmental Protection Agency (EPA). Similarly, the EPA conducted an experts' workshop in which professional scientists ranked ecological risks on a continuum from highest to lowest. The results of the public survey ranked "active hazardous waste sites, abandoned hazardous waste sites, water pollution from industrial sources, oil spills, radiation from nuclear power plant accidents, industrial air pollution, chemicals from industrial accidents, solid waste and ground-water contamination from agriculture, cultural and industrial sources" as the highest environmental risks. In sharp contrast, the EPA workshop experts rated "global climatic change, habitat alteration, stratospheric ozone depletion and biological species depletion" as the greatest threats to the environment.

The planning dilemma illustrated in this case is not the question of who is right, citizens or experts. Rather, the critical question is about how we determine the issues that drive public policy. The classic public policy dilemma of "guns or butter" represents this fundamental problem of conflicting values and priorities. In the context of ecosystem management it might be better...
phrased as “grizzly bears or algae.” The question “What are we planning for?” cannot be separated from the question of what we value, and of who decides upon the priorities for public policy. Practitioners with a technocratic or regulatory bent tend to view this as the domain of the politician. However, the notion of public interest, though battered, must still be part of professional planning practice; otherwise, we would not be concerned about the four challenges that Castells has identified for planning in the new millennium (“environmental sustainability...retrofitting and environmental softening of infrastructural reconstruction of spatial meaning in formal and processes...rethinking and reorganizing local and regional governing structures”). Planners must become involved in the process of setting public policy, in determining which issues, whose issues, will drive the public domain in the new millennium. Planning has always covered a wide spectrum of applications. Planners should therefore resist the temptation to narrow the definition of planning practice to municipal development approval and regulation. None of Castells’ four planning challenges will be met by a bureaucracy of file managers focused on the width of side yards and standardized street setbacks.

Since the 1970s, the environmental policy agenda at the municipal level has in large part been driven externally, by a variety of interest groups. On a regular basis, citizens and communities concerned with the environment have been consulted and ascribed expertise by municipal councils. However, it is much harder to envision municipalities giving “citizen engineers” and community-based “engineering interest groups,” a similar role in capital planning and infrastructure development. Perhaps this is because urban environmental policy has not yet moved beyond its initial normative phase (i.e., there should be less garbage, more bird habitat, more trees) and into the “how to do it” of substantive “ecological plumbing” practice. Perhaps it is a matter of a lack of well-trained professionals, practitioners, where are the environmental policy planners and environmental designers and ecological planners in local government?

**Ecological plumbing on-line**

While part of the postmodern debate in planning seeks to dismantle the modern myths of master narratives, centralized bureaucratic hierarchies, and the author of experts, there is another part of the debate. Urban ecology seeks to dismantle the dominance of the industrial machine as the primary engineering and architectonic metaphor for the built human environment. Buckminster Fuller observed that despite all of the advances in technology it is plumbing that continues to connect us to the earth. Unlike industrial technology, information technology is a surrogate of our brain, not our brawn. However, even in the virtual reality of cyberspace we will eventually need to heed the call of nature. The “city as machine” metaphor of modern architecture has been pronounced as an “ecological dead end.” The new metaphor of “city as ecosystem,” coupled with the rise of urban ecology as a both a theory and a practice, is driving the international emergence of urban environmental management and sustainable urban design.

The fundamental challenges facing urban environmental planners at the beginning of the twenty-first century are the ecological restructuring of urban form and the development of ecological efficiencies in urban systems. This “ecological plumbing” role for planners, originally described by Castells in his book Out of Our Depths, has been addressed to the July 1994 issue of Plan Canada, is apparently still in its genesis. Yet the goals remain the same: Ecological plumbing incorporates information about human activity, built environment/ecological process interrelationships into an iterative design/research process that uses the built environment to simulate important natural processes in a manner analogous to the way that an artificial heart simulates blood flow.” At the end of the twentieth century, urban environmental management is still predominantly a public works exercise in end-of-pipe solutions—not in urban ecology. This goes a long way to explain the previously cited results of the Roper Poll in which public perceptions of environmental risk are technological rather than ecological.

**Urban ecology: it’s human nature**

It has been said that the most critical international urban ecology problem facing planners is the competition between the habitat requirements of a 175-pound human being and the habitat requirements of her/his 3,000-pound car. In his 1990 book Discordant Harmonies, Daniel Botkin observes that “nature in the twenty-first century will be nature we make.” However, here at the beginning of the twenty-first century we really have no clear idea or agreement about what information is required to make an urban ecology. In a world supposedly awash in information, the lack of instrumental, substantive and contextual planning models for urban ecology is a real dilemma. Yet, urban ecology is as much a design problem as it is a planning issue.

Ecological design is about the structural and functional synergies between systems of human artifact and ecological processes. It simulates ecological processes (function, structure, behaviour and inter-relationships) by building systems that incorporate on-site opportunities and technologies for nutrient cycling, energy production, water harvesting and re-use, natural heating, cooling, lighting and habitat diversity. Ecological design practice gives built technological form to these human-ecological system synergies. In the end, the practice of a built ecology based on ecological design requires an ecologically informed knowledge about what works on the ground, and the range of performance that can be expected in specific geographical and sociocultural contexts.

Yet, there are currently no full-fledged examples of deliberate ecological infrastructure planning or design. No examples of urban nutrient cycle management. No examples of environmental zoning that incorporates urban climatic zones capable of extending “degree days.” No examples of urban zoning by soil type productivity, or by aquatic or terrestrial habitat productivity, through which such opportunities or habitats are identified and protected. Landscape ecology theory is not being applied to create systems of spatial infrastructure for urban form and ecological process.

Therefore, be it resolved that there is a critical need for urban ecological demonstration projects at the municipal level—projects that make urban ecological design and planning a reality, and not just a normative theoretical concept. The purposes of initiating these demonstration projects are:

- to demonstrate to private and public sector partners that there is market receptivity for alternative sustainable forms of development;
- to identify how and where municipal development costs could effectively be reduced through alternative development planning and design;
- to identify the sustainable design principles, as well as the institutional and financial factors, that influence development approval, construction and life-cycle costs.

The major activities and benefits associated with these demonstration projects would include:

- designing and testing alternative ecological infrastructure (water, storm water and energy management; habitat protection and restoration; and housing and neighbourgroup form and technologies);
- assessing market and consumer receptivity to “sustainable community” innovations;
- determining what implications the adoption of innovative “green” technologies and practices will have for municipal regulation, management, infrastructure and finances;
- developing social marketing strategies, as well as trade and professional training modules, for the design, construction and management of sustainable technologies and systems.

If the practice of ecological design is to result in the ecological restructuring of the built environment, it must emerge as a process for giving form to a new human/technological ecological synthesis. The challenge then involves placing industrialized cultures in a new context. What should our goals be? How should we live? Such questions make ecological design an essential element in the emergence of a new cultural philosophy and a new, unified architectural aesthetic. The modernist belief that all problems can be solved through rational deduction, and that all social needs can be satisfied through science, has been seriously eroded. This erosion is at the heart of the “crisis” in both design and planning. We must reframe the rules of engagement and re-engage with the system of life, which Kevin Kelly describes as the “ultimate technology.”

Be it resolved.

Dr. Mary-Ellen Tyler is currently Dean of the Faculty of Environmental Design at the University of Calgary. She holds interdisciplinary graduate degrees at the Masters and Ph.D. levels in environmental science and natural resource management. Dr. Tyler has worked in both the private and public sectors on an environmental planning and education project ten years with the Federal Government in British Columbia working with Indian and Northern Affairs in resource development impact assessment, local government development, and environmental resource management issues related to comprehensive land claims negotiations. During her academic career, she has held tenured academic appointments at both the University of Waterloo and the University of Manitoba, and has taught in the areas of Urban and Regional Planning, Landscape Architecture and Environmental Design. Before moving to Calgary in 1998, Dr. Tyler was Associate Dean of Architecture at the University of Manitoba, and acted as Head of the departments of Environmental Design and Interior Design. Her current areas of research, scholarship and professional practice involve urban ecology, sustainable urban design, landscape management, ecological restoration and urban environmental management.

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