

Constructing the Future in Planning: *A Survey of Theories and Tools*

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Abstract

The future is a long recognized focus of the urban planning profession but it has been neglected of late, particularly by academics. This article reviews concepts, theories and tools useful for strengthening a future focus in planning. Core analytical concepts include distinctions between projections, forecasts and plans, and continuities of past, present and future. Ethical issues center on the tension between an activist shaping of the future and the manipulation of forecasts to support desired plans. Emphasizing representation of the future as an essential means for gaining agreement, the article surveys the practices of visioning, scenario-building and persuasive storytelling. The conclusion outlines a reinvigorated approach to planning the future that draws upon theories presented.

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INTRODUCTION

A renewed search for definition in the planning field is underway today. Aaron Wildavsky's challenge, "If planning is everything, maybe it is nothing," has echoed ever louder over the years. Planning's broad relevance and its interdisciplinary inclusiveness have served as both a strength and a vulnerability. Ever adaptable, the planning field has continued to evolve in many directions, and in academia it provides a "big tent" that shelters scholars trained in many more disciplines than planning alone.

One emphasis that has been identified as central to the intellectual and professional identity or mission of planning is "foresight" (Markusen 1998), "a focus on the future and pathways of change over time" (Strategic Marketing Committee of ACSP 1997), or "persuasive storytelling about the future" (Throgmorton 1992). Recent writers have proclaimed the future orientation of planning as unique to the field's identity and have called for renewed focus and development of future-oriented skills.

The reasons for planning's special relationship to the future are fundamental. Evident to many is that the very purpose of a plan or the action of planning is to prepare for future activity. Planners seek not merely to predict but create better futures. The very substance of urban planning is founded in time, because the process of urban development unfolds over decades. No matter how present-focused may be current debates and decision making, the actual construction of individual buildings and public works takes place over years and even decades or more. Thus a concept that was approved in the present can only take shape and yield its intended physical or economic effects in the future. In turn, once built, these projects

will live on for decades more into the future. In fact, urban planning has been singled out by futurists as a special case where a future orientation is most required: "It is safe to say that nowhere in the society are people's futures mortgaged so far ahead as when the municipalities plan housing projects, earmark uses of land and build highways" (passage from a report by the Swedish Secretariat for Future Studies, quoted in May 1996:35). For all these reasons, decision making in planning cannot avoid addressing the future. Indeed, the future may be our major *raison d'être*.

A Surprising Neglect

Despite the commonsense appeal that planning has a special interest in foresight and analysis of the future, this focus may have been taken for granted in the past. Indeed, some have warned of a surprising neglect. In his seminal essay, "Dare to Plan," Andrew Isserman finds that a profound weakness undermines the very core of urban planning: "....planning has lost sight of the future....Planning voluntarily is sacrificing its role as visionary and idealist and is abandoning its responsibility to be a source of inspiration and ideas about what might be and what ought to be" (Isserman 1985: 483). Similarly, Michael Brooks (1988) asserts that we "sorely need to return to the utopian tradition in planning," suggesting that inattention to the visionary component of planning has undermined the soul of the profession. Has planning in fact lost sight of the future?

The Profession

To be sure, references to the future abound within the profession, appearing frequently in both professional and academic discourse as well as in planning documents, particularly those pertaining to 20-year comprehensive plans. In planning practice, the recent surge of interest in visioning exercises has raised awareness of planners' role in shaping the future, in some cases

bringing the future to the forefront of high-profile community participation campaigns. Moreover, population projections are readily available to planning practitioners and are frequently incorporated into long-range plans. Transportation planners, in particular, employ projections to create regional mosaics of small areas that inform long-range transportation plans.

Yet for all the ostensible future-orientation in current planning practice, most efforts to plan for the future ring hollow. Although the visioning movement has successfully concentrated attention on the future, the results of such exercises are rarely linked to feasibility studies of change (Helling 1998). Visions too often lack an explicit time path connecting historical realities and present trends to viable outcomes (Helling 1998). Also absent from planners' approach to the future is a systemic understanding of how multiple trends will extend forward and interact with one another, shaping new possibilities and patterns of behavior in the process. This unidimensional approach is most evident in planners' treatment of population growth, which tends to be conceived as simply today's population grown bigger.

Another deficiency of current efforts to construct vision plans is that they have largely produced imagined or technical futures divorced from political realities. Neither visioning processes nor actual plans have based the construction of futures on the articulation of alternative political interpretations. Only bland and cautious truisms or blue-sky wish lists are packaged for public consumption. At the same time, the planning profession's effort to become more relevant within the local political scene has strengthened planners' emphasis on short-range planning driven by two-year budget cycles and the short-term horizons of the electoral process.

The overall result is that the planning profession operates with very simply constructed, hollow futures—often short-range and unidimensional, sometimes long-range but

disconnected from either historical trends or implementation, and always devoid of impassioned political advocacy.

The Academy

For their part, academics, who are impervious to the political constraints of elections and short-term budgets, and who possess commanding technical and intellectual skills, have failed to bring greater intelligence to the creation of urban planning futures. In contrast to the tradition of inquiry about the future established by an older generation of academic planners such as Melville Branch, the first Ph.D. in Planning from the University of Chicago, who has continued to emphasize the importance of the future throughout his career,¹ younger generations of planning scholars have not made the future a major theme in their work. One would be hard pressed to find contemporary scholarly writings where alternative futures were made the object of sustained inquiry, or to find course titles in the curriculum that contain a future orientation.² This deficiency is unfortunate because academics have the potential to offer practitioners the solid theoretical background that might inform richer, better developed statements about the future.

The relative absence of academic attention to the future may stem from several causes. An overriding factor is the rise of social science as the guiding intellectual framework for planning, which has directed academic inquiry to data and events that have been accumulated in the recent or distant past. Lack of data or known events in the future precludes their analysis by social scientists. In contrast, Alonso (1971) and Isserman (1985), among others, plea for a continuation of the imaginative architectural traditions now lost from planning. Ironically, these two figures are among the leading social science scholars in the modern era of planning

¹ At age 85, Branch recently published his 20th book, entitled *Comprehensive Planning for the 21st Century* (Praeger; 1998).

education. Yet both recognize that the infusion of modernist social science has exacted a price: planning is more than fact-finding or hypothesis testing. It requires vision and ideals, creativity as well as analysis, and judgment as well as technique.

Neglect of the future may also arise as a byproduct of a newly strengthened focus on spatial analysis. Space and time are two essential dimensions for describing the world, but it is difficult to focus on both at once. Moreover, planners have long had a preference for land use maps and other spatial devices for envisioning their cities. Yet without close study of how cities and their core components evolve over time, it is difficult to analyze how alternative futures might unfold.

As opposed to the needed focus on time, recent developments in urban theory have emphasized spatiality, contributing significant new discoveries about the importance of spatial context for regional development.³ The only visible analysis of temporal relations is on the part of an active group of scholars in planning history and urban history, but that work has remained focused on the past and has not sought service for either current decision making or contemplation of the future. An exception is Mandelbaum (1985), who examines the potential for merging history and planning to produce “intellectual frames” for constructing the past, which may help planners to think strategically about the future.

Simultaneously, the rise of a new technical mode of data analysis and display, geographic information systems (GIS), has intensified emphasis on spatial patterns at fixed points in time. The proliferation of computer-generated map displays has greatly outweighed any increase in time graphs, which might also be computer-generated, though not with the same software or

² An exception is the futures concentration that is part of the planning program at SUNY-Buffalo.

³ Key proponents of the newfound spatiality include Allen J. Scott and Edward Soja, both of whom bring a geographic heritage into planning. In fact, among the leading “postmodern” urban geographers, only Pred (1990) has devoted substantial attention to relations in time.

expensively developed databases. Rare exceptions can be found, one of the most important of which is the California Urban Futures model by John Landis (1996). That model projects the diffusion of urban growth by simulating the developer's calculus of what parcels to build on next. On the whole, however, the attention of both scholars and professionals has been focused on new advances in spatial analysis, to the detriment of concerns about temporal analysis or the future.

Toward Planning Intelligent Futures

The recent calls for planning to strengthen its special claim to a future orientation point up the fact that neither practitioners nor academics are adequately equipped to effectively address the future. Indeed, lamentations about the abandonment of the visionary tradition in planning obscure the essential point: neither the grand visions of planning's past nor the more practical, localized planning visions produced today are very strong on the future. Neither the old or the new are firmly grounded in an intelligent understanding of the dynamic processes by which the future evolves and may be shaped. Practitioners continue to invoke the future, but they do so without a theoretical frame of reference to lead them toward more robust and well-integrated views of desired futures. Meanwhile, academics appear to have lost sight of the future entirely. Burdened by social science data requirements that render the future an unattractive intellectual territory, academics have surrendered the future to practitioners with little comment or guidance. Even the new interpretive streams of planning thought have focused on social and political history rather than prospective worlds to come. Yet if practitioners are to construct more intelligent futures, academics must embrace their role in providing the necessary intellectual reinforcement.

If planners did want to strengthen their orientation to the future, what would a contemporary paradigm look like? In this essay we propose some core elements of a contemporary expert approach by which planners may address the future with authority. Drawing upon a review of the existing planning literature related to the future, as well as other sources, we identify useful tools for constructing the future. These tools include both analytical concepts and means of representing the future.

In the next section we address Isserman's (1984) distinctions between projections, forecasts and plans, and accompany this with a discussion of Wach's observations on the ethical dilemmas of quantitative judgment (1982). We then discuss the continuities linking past, present and future, drawing in particular on key insights introduced by Perloff (1980). Following that we address the presence of multiple temporal processes that intertwine and shape the historical timeline. These temporal processes consist of two broad categories: parallel, interacting historical trajectories (such as population, housing, and employment), and embedded life-cycle processes that provide temporal substructure to each historical trajectory. The interplay of these different temporal processes is complex and affords very rich grounds for analysis.

Finally we turn to representation of the future. Three principal techniques stand out: visioning, scenarios and storytelling. Representation has many roles – to describe, to predict via plausible plot line, to persuade, or to rehearse alternative possibilities and appropriate responses. The multifaceted character of the future requires holistic approaches that tie together different elements and describe roles for many different players.

This representation is not separate from the analytical approaches to the future. Instead, scenarios and stories about the future draw upon the results of analysis for central driving

elements or embellishments. Indeed, decision makers and citizens make sense of the analytical findings about the future through their depiction in these future representations.

What is needed today is a new synthesis of skills that includes all of the lessons of the modern era – political relevance, public inclusiveness, quantitative technique, narrative, openness of communication, and more – while recovering lost emphases from the past. The present essay is a first step in identifying useful elements of a new paradigm for addressing the future in planning.

CORE ANALYTICAL CONCEPTS

Projection, Forecast and Plan

The essential distinctions among projection, forecast and plan proposed by Andrew Isserman (1984) are important to grasp. A *projection* is not a prediction but merely the result of entering hypothetical assumptions into a mechanistic quantitative procedure. A *forecast* represents a best guess about the future, achieved by adding judgment about the most likely future rates of behavior and other assumptions. Part of the judgment required for a forecast includes decision making about the quality of input data and what type of analytical model provides the most realistic results. Finally, a *plan* requires evaluation of the forecasted future for its level of desirability and potential alterability. Plans can be constructed to avoid undesirable futures, to make desired forecasts come true, or to create new, more desirable futures.

Standard methods for constructing projections, such as the cohort-component method of population projection, trip generation models in transportation, or fiscal impact calculations, are merely accounting systems that rely on hypothetical assumptions, of the form “if these past rates of behavior continue, then this will be the outcome.” Some planners have argued against the allure of quantitative projection models, favoring forecasts that balance quantitative and

qualitative methods (Skaburskis1995). Projections are only mechanical exercises that spell out the future implications of current trends or past ratios without assessing the validity of the assumptions used to make the projection. Projections are not predictions of the way the future must or will unfold, though planners often mistake them as such. Planners can make intelligent use of projections as long as they make informed decisions about the likelihood that a given projection will actually play out.

Unfortunately, Isserman concludes that planners have adopted quantitative techniques of projection as if they described the most probable future (truth) and as if that were desired (ideal). Such projections are often insufficiently developed to serve as valid forecasts. Even if a strong effort is made to develop predictions of the most likely future, this may not provide sufficient guidance for constructing plans. Unlike demographers or economists, planners have an active role in not only predicting but shaping the future.

Activist Shaping of the Future

Plans are of course the workhorse of the planning profession. Plans should be both visionary and practical, setting forth a coherent image of a desired future and spelling out the means to bring that future to fruition. Properly conceived, plans not only accommodate change but effect it, bringing projections, forecasts and vision together in a resolution for action.

Ignoring the distinctions between projections and forecasts, or between forecasts and plans, planners often take the results of a simple mechanical projection as if that were an accurate prediction of the most probable future (a forecast). Worse, they often assume that the purpose of planning is to simply accommodate that projection: "In each case the future population is taken as a given to which planning and society must accommodate. The fact that planning can affect the population level through zoning, public facility provision, and air quality standards is being ignored in this unidirectional planning process. Future population

rather than being an input to planning also can be an outcome. We need not only accommodate change, we can choose to effect it" (Isserman 1985: 485). Some environmental ethicists take even stronger positions, asserting a paternal/maternal responsibility for the future. Sagoff (1998) argues that the tastes of future individuals depend on human action. Future generations become accustomed to what present generations choose to advertise and to make available. In this view, we have responsibility for leading future generations to the kinds of urban environments that we judge good for people.

This activist spirit toward reshaping the future underlies the movement toward "vision planning," where citizens describe ideal scenarios toward which they wish to move their localities. However, technical forecasting is a process that provides an essential reality check by defining the upper and lower limits within which key ratios can be altered. Through these means planners can lend support to certain normative visions and cast doubt on others.

Ethical Dilemmas of Quantitative Judgment

How freely should planners seek to shape the future? An effective planner might introduce judgment into an analysis that causes the forecast to support a desired future. Forecasting can involve a complex series of calculations that embed a host of core assumptions, many of which are not publicly divulged. Yet Ascher (1978) emphasizes that the core assumptions are more important than the methodology for determining the accuracy of a forecast. Worse, the core assumptions often bear implicit biases toward higher or lower forecast outcomes, leading to systematic political bias in the forecast process. The essential problem has been identified by Martin Wachs (1982:247) as follows:

"The political salience of many forecasts and the technical complexity of the forecasting process combine to create for the forecaster an important ethical dilemma. Forecasts which support the advocacy of particular courses of action are often demanded by

interest groups or public officials. Forecasters must rely upon so many assumptions and judgmental procedures that it is usually possible to adjust forecasts to the extent that they meet such demands....Public policy heightens this dilemma by requiring through laws and regulations forecasts which are supposedly technically objective and politically neutral, while distributing political rewards to those whose forecasts prove their positions most emphatically."

The planning researcher often faces uncertainty in his or her own mind regarding specific assumptions. When supervisors or clients apply pressure to reconsider particular assumptions that are critical to the forecast result, the researcher often does not possess sufficient certitude to resist. Again, Wachs (1982: 257) describes the institutional pressures well:

"The consultant wishes to be considered for future contracts. Rewards flow from effective service as an advocate for the interests clearly identified by the organization. Should the forecast be made on the basis of core assumptions which seem most favorable to the furtherance of the organization's goals? The rewards for advocacy are clear, while even the criteria for judging objectivity are ambiguous."

Creating Responsible Forecasts Useful to Planning

This dilemma may seem an inescapable feature of the forecast process. And Wachs' caution would seem to rein in Isserman's plea for planners to actively shape the future. However, these two concepts need not be in conflict. The heart of the problem lies in the secrecy with which the forecaster enters assumptions and prepares his models. It would seem foolish to entrust our collective future to such "back room" analysis.

Instead, a much more interactive and open procedure is needed that incorporates technical analysis and value judgments. Naturally, those judgments should not be left to the computer modelers or to planners alone, and Isserman (1984) recommends interaction between

planners and citizens in the construction of forecasts. This requires much more public disclosure, and justification, about underlying technical assumptions, without which the public may not “buy in” to the resulting forecasts. In this regard, Isserman’s vision of population forecasting is consistent with the emerging, postmodern style of planning that emphasizes communication (Innes 1996). At its heart planning is “persuasive story telling about the future” (Throgmorton 1992). The forecast numbers, and the logic behind those numbers, are a critical part of the story.

Continuities of Past, Present and Future

The future is not a disconnected end-state that exists only in the future; instead, the future should be viewed as a continuous unfolding in time that is rooted in both the past and present. The first task of planners is to establish a baseline of continuity between what Harvey Perloff (1980) has termed the past, present and future components of the future. Planners must master all three components if they are to effectively shape the future.

The *future* component of the future – what we usually think of when we think of the future – engenders those new elements that we hope to create through our plans, as well as the new problems, possibilities and opportunities we see on the horizon. Conventionally, this component is engaged through the processes of projection and forecasting, though it may also be enlisted through stories, visioning exercises and other creative techniques, as discussed below. In general, the future component of the future is the form of the future studied most often by futurists. Alternatively, in the guise of science fiction, the future component of the future is disconnected from both past and present. Such a vision does not help us to understand how the future unfolds or how we should alter current decision making.

The *past* component of the future has to do with all those elements that will be inherited from the past into the future and will have to be accounted for in planning for the future. In physical planning, this inheritance refers to all the buildings and infrastructure that can reasonably be expected to exist in the future, but inheritance also refers to intangibles such as demographic patterns, air quality, institutions and so forth. Perloff stresses the formal techniques of asset accounting as helpful in determining the shape and scope of one's inheritance.

Both the past and the future are mediated through the *present* component of the future, the locus of our state of consciousness and our decision-making power. As Perloff notes, the present acts as a filter for thinking and decisions about the future. Present technologies, present fashions, present decision-making processes and present views of the future and the past all influence our planning efforts. The present is where continuity and change must be reconciled. Indeed, it is useful to think of the present as merely the transition between past and future. In reality, the present is vanishingly brief and ephemeral, a short instant whose locus in time is continuously shifting from future to past. For this reason Mandelbaum (1984) posits the very notion of a present in planning as a fiction. In his view, this "artificial" present is actually a vague time period composed of both the recent past and near-term anticipation about the future. Indeed, planners often telescope the future down to the present through such accounting devices as "build out" and "present value." And they extend the present up to a decade into the past when they rely on the most recent census as a "current" descriptor. Excessive reliance on the present—however elastic—is damaging to future interests.

Example of Historic Preservation in the Present

Planners must systematically link past and future in their present decision making. For example, William Baer (1997) foresees a crisis growing out of current historic preservation

practices due to preservationists' failure to systematically account for their inheritance and forecast the effects of their current decisions on the future. In the present, preservationists have identified buildings inherited from the past that, according to current tastes and values, should be preserved in perpetuity into the future. Baer maintains that current decision making is connecting past and future in an unsystematic and poorly considered fashion. Thinking ahead, he argues that preservationists should begin planning how much of today's new construction should be earmarked for future preservation once it ripens sufficiently for consideration (generally 50 years). Baer cautions that cities potentially could acquire so heavy an encumbrance of preservation restrictions that opportunities for further preservation in future years might become unduly restricted. The merit of his argument is to sensitize planners to the fact that their current decision making, while focused on the past and located in the present, occupies only a brief window in the continuity from past to future. Planners should act responsibly for the benefit of the future as well.

Temporal Horizons and Spatial Scale

Just as forecasts may be geared toward short-, medium-, or long-range futures, so they may correspond to a variety of geographic levels along a spatial scale. Forecasts may cover the globe, entire nations or regions, or may be more narrowly focused on specific cities, neighborhoods or individual parcels. As a rule of thumb, the time frame and spatial scale of a forecast are positively associated with one another. That is, longer-range forecasts tend to be constructed for broader geographic areas, while shorter forecasts generally apply to localities and subareas.

The most distant views of the future tend to be global in geographic scale as well as in the scope of their concerns. This is the spatial and temporal domain of futurists who, as Sam Cole

(1998) notes, typically deal in timelines that are beyond our ability to usefully forecast—events that will occur 25 or 50 years hence. By contrast, urban planners most often have focused on smaller geographic areas at the scale of localities (despite the futurists' assessment of planning's long-run nature that was quoted in the Introduction). At this scale, forecasts are frequently limited to five years, and may be as short as one year, as, for example, when planners try to predict the fiscal impacts of a specific development.

Obviously one forecast can't fit all purposes. Rather, planners should view forecasting as a multi-tiered enterprise in which shorter forecasts might be nested within longer-range ones. Similarly, an expert approach to the future will acknowledge the value of the differing relationships various actors have with the future. Freed even from the constraints of forecasts, futurists' long time horizon allows them to think boldly and imaginatively about issues of global concern. Their approach to the future is fluid but abstract. At the other end of the spectrum, planners engage in a much more intimate interaction with the future. Because they work on tangible, local issues, planners' view of the future is at once more grounded and more physically and temporally proximate than that of futurists. Both approaches—as well as others that fall between these extremes—are desirable in a well-rounded strategy for planning the future.

Multiple Temporal Processes

The future is often thought of as comprising the end of a single historical time line. Yet there are multiple temporal processes at work, some made up of the sequence of historical conditions, and others of life cycles and other temporal relations that are operating on different time lines. For example, a city is subject to an historical time line of annual construction, employment growth and interest rates. At the same time, however, new industries and

products are being created and individual firms are being "born," are maturing or are "dying." Thus even an old city can contain new industries and young firms. The future of employment in the city is composed of the development cycles of these components, not all of which are synchronized with one another. Rather than focus on projecting the future of the total employment base, planners may need to first track individual industry life cycles.

An example described by Isserman (1998) is the case of a city in West Virginia where a declining steel-based manufacturing sector has led to a long decline in employment. However, now that the sector has emptied out, employment in the city is expected to rebound – with a corresponding increase in population – as positive trends in other sectors, such as tourism, continue upward.

An expert approach to the future entails consciousness of the multiple temporal processes that will intersect in the future and that need to be synchronized or harmonized among themselves. These temporal processes comprise two broad types – parallel historical trends and embedded life-cycle dynamics – that play out in different combinations. These are only briefly sketched out below.

Parallel Historical Trends

Many different trends occupy the same historical time line. Examples include population, housing, and employment growth trends, changing technology, financial markets, and the rise and fall of political regimes. Of course, these parallel trends are not independent and are clearly linked. But forecasts often address only a limited set of the possible historical trends, focusing on one part of the future to the exclusion of other factors.

A graphic example has recently developed in California. Two competing stories are being told about the future of the state's economy. One story emphasizes the growing high-technology and information-based economy. This includes not only computer-related

industries but also advanced business services, entertainment, and cultural products design. Evidence cited shows that an ever growing share of the state's jobs require a college education and advanced training.

The competing story focuses not on the changing nature of jobs but on the changing nature of the labor force. Rising immigration, especially from Mexico, is creating a low-skilled workforce. Latinos represent more than half of all immigrants and two-thirds of future population growth, yet the great majority of Latino immigrants lack a high school education. Thus the labor force is growing at the low end while the economy is growing at the high end.

Respected analysts have concluded that the state is on a collision course with regard to these two opposite trends. Ultimately, the labor force and economy will be joined by the fact that workers hold jobs. Does this imply that the economy will "dumb down" to the level of the labor force, or that the labor force will "skill up" to meet the demands of the economy? To date, policy makers have avoided addressing the question of how two apparently divergent trends will be reconciled. The future of California hangs in the balance.

Nested Cycles and Embedded Life-Cycle Dynamics

Distinct from the notion of parallel historical trends are the concepts of nested cycles and embedded life-cycles. These are among the most difficult concepts related to forecasting because they are key components lurking beneath the surface of the historical time line.

In a recent comprehensive review, Berry (1991) summarizes the historical record on long-term cycles in growth and development. He finds strong evidence for 25-year Kuznets growth cycles nested within 50-year Kondratieff cycles. What drives these oscillating rhythms is a fundamental lag structure of overshoot and recovery, combined with triggering events related to major shifts in technology of production. New technology has a delayed effect on future

growth because of the time delays for innovation diffusion (Rogers 1983). A cluster of new inventions may trigger a surge in economic growth two decades hence.

The implication of this body of research is that annual time series of economic growth cannot be well understood, or projected, within solely their short-term temporal context. Year-to-year changes in construction or economic investment are part of a business cycle which is in turn nested within longer-wave cycles of growth and development.

An alternative form of nesting involves the life-cycle of components within the aggregate. For example, houses and neighborhoods have roughly-defined life cycles that are embedded within the overall growth trajectory of an urban area. Some parts of a region may be in decline while others are in ascendancy, with new growth more often positioned on the periphery. A simple projection of the future for the region may have no direct bearing on the future of a given neighborhood, and vice versa, although the future of the region will surely influence the rate of redevelopment in a given subarea.

The Future is Not the End of Only a Single Historical Timeline

The conclusion to be reached from this review of multiple temporal processes is that the future should not be viewed as the simple end of a single historical time line. Many different temporal processes are interacting, some of which are tracking in parallel and others of which are embedded in complex ways.

REPRESENTING THE FUTURE

The planning process has become hampered by political impasses at the same time that it has grown more deeply entrenched in data collection procedures. This has led planners to question the limits of analytical approaches to planning the future, and to experiment with new, more comprehensive approaches.

In recent years, planners have focused increasing attention on means of representing the future – that is, on evoking images of the future that serve as heuristic or rhetorical guides for action. The three most prominent representational methods that have emerged are visioning, scenario-writing, and persuasive storytelling. These methods help stimulate discussion about desired futures, prepare planners to address the future with authority, and persuade others to adopt a particular plan for the future. Visioning, scenario writing, and persuasive storytelling bring to life findings achieved through analytical means by weaving information on diverse but related topics into a readily comprehensible whole.

Visioning is a collaborative process whereby citizens' desires for their city or region are melded into an image of the locality in its ideal future state. Visions are a statement of the aspirations of a given group, which is accompanied by a strategy for achieving goals. By contrast, scenario-writing and persuasive storytelling are processes that yield stories that explain the significance of events that have already or are likely to occur, and suggest how actions in the present will affect the future. As opposed to analytical forms of expression, stories mesh plot, characters, and point of view into a dramatic and holistic interpretation of a problem. As Peter Schwartz (1996) writes, "Stories have a psychological impact that graphs and equations lack. Stories are about meaning; they help explain why things could happen in a certain way. They give order and meaning to events – a crucial aspect of understanding future possibilities." Similarly, James Throgmorton (1992) observes, "Some views of the world can only be fully and adequately stated in ways that are more complex, more allusive, more attentive to particulars; in a word, through stories."

Visions, scenarios, and persuasive stories demystify the future by reducing complexity while at the same time bringing multiple perspectives into consideration. Visions focus the citizenry on their desired ends and act as a benchmark for planning decisions and actions.

Scenario-writing is especially useful to planners as a way of sensitizing themselves to the various possibilities of the future, which can then be planned for (or against). Stories told persuasively can be used to win people over to a planner's way of thinking.

Visioning

The visioning movement has gained momentum in keeping with the growing emphasis on citizen participation in the planning process. Cities and regions have latched onto visioning as a way of encouraging citizen involvement and bringing to light vital community concerns and interests. Visioning typically joins a representative cross-section of community stakeholders in a collaborative process of specifying a normative future. The end product of the process is a consensually created portrait of the community in its fully actualized state.

A vision is not a fantasy, but rather an optimistic picture of what might be achieved within a municipality or region given available capacities and resources. Visioning is ostensibly a goal-oriented process that provides "a framework for identifying community concerns, developing and prioritizing actions, and measuring results" (Institute of Portland Metropolitan Studies 1995).

A useful review and critique of the current wave of visioning exercises can be found in an article by Amy Helling (1998). Thus far, the visioning movement has generally emphasized process and goal-setting over means of accomplishing goals, with the result that visioning has fallen short of its promise to meaningfully inform future-oriented action. Actionable visions require well-defined goals as well as an explicit action sequence and time path and clear standards of measuring achievement. In effect, visioning emphasizes a disconnected end state in the future, or in Perloff's terms merely the future component of the future.

The deficiencies in the visioning process are illustrated in Helling's evaluation of Atlanta's Vision 2020 project. Helling found that the Atlanta project had done much to foster interaction between regional entities, but had cost \$4.4 million in resources without producing significant immediate results or an adequate plan for achieving the vision.

If visioning is to be effective, the creative and collaborative aspects of the visioning process must be balanced by feasibility projections and grounding in action scenarios. In the absence of strategies for achieving goals and the authority to implement them, visions risk devolving into inconsequential and expensive wish lists for the future.

Scenario Writing

Scenario writing is a practice that developed among business planners and strategists but applies equally well to the urban planning environment. At root, scenarios are simply stories about events that would have an impact on planning decisions if they occurred. In the scenario-building process, planners invent a number of stories about equally plausible futures, study the implications of each future for their organization, then strategize their organization's response as though each of these scenarios had in fact come to pass.

Hirschhorn (1980) suggests a typology of scenarios that categorizes scenarios as either state or process driven. State scenarios are those that posit a vision of what the world will be like at a specified point in the future without describing the process by which this end state is achieved. By contrast, process scenarios describe the circumstances and sequence of events through which a particular vision or end state is realized. Both process and state scenarios are further categorized to produce six scenario types. State scenarios may be divided into two forms based on purpose: those used for planning and decision-making, and those used for prediction. Process scenarios are typed as either end-state or beginning-state. End-state

scenarios are formulated by working backward from an envisioned end-state to specify the sequence of events that unfolds from a beginning state toward that end. Beginning-state scenarios depart from a given set of circumstances and work forward through a chain of events to arrive at a vision of the future. Process scenarios may be used for the purposes of either planning or prediction (the two types of state scenarios).

Schwartz (1996) emphasizes the use of what Hirschhorn would type as planning-oriented process scenarios. In Schwartz's conception, the value of scenario-building lies not in predicting the future but in preparing planners to respond intelligently to whatever the future holds in store. The objective of the scenario-building process is not to decide on the likeliest future, or even a normative one, but to make strategic decisions in the present that will serve all plausible futures. Schwartz holds the forecasting component of the scenario-building practice to a standard of effectiveness rather than accuracy; the outcome of the process should be better decisions in the future.

Rehearsal of the implications of various scenarios is the heart of the scenario-building process. By practicing responses to predicted events, the planner advances his or her preparedness for the future on a number of fronts. First, these rehearsals afford planners greater confidence in facing the uncertainties of the future. As Schwartz argues, aggressively engaging the future through active scenario-building frees us from its vicissitudes. Having already familiarized themselves with their capacities to meet the likely challenges of the unfolding future, planners can move forward with faith in their "ability to act with a knowledgeable sense of risk and reward."

Second, the rehearsal process gives planners more control over their future by sensitizing them to the planning environment. Through practice, planners become alert to key indicators in the environment and know the significance of these indicators to their organizations. Moreover,

rehearsal also teaches planners to detect unexpected events in the environment that might affect their agency.

Finally, practicing responses to anticipated eventualities can help accelerate response rates, much as a fire crew's ability to respond quickly depends on repeated practice with fire drills.

The inclusion of scenarios in two high profile planning documents – the New York Regional Plan (Yaro and Hiss 1996) and the American Planning Association's *Growing Smart Legislative Guidebook* (1996) – is an indication of the growing attention being paid to scenario writing within the planning field. Both documents describe two alternative futures, one normative and the other a worst-case scenario, which unfold according to the interplay between historical circumstance and plots set in motion by planners. For example, the normative scenario for the New York Regional Plan projects the positive changes in people's lives as a result of the creation of high-speed transit and advanced telecommunication systems, while also paying more attention to the environment and preservation of open spaces in the metropolitan region.

Despite the increased exposure conferred upon scenarios by their inclusion in these official documents, however, these scenarios are largely gratuitous. The very placement of the scenarios outside the main body of the publications suggests the lack of serious intent attached to them: in the APA guidebook, the scenarios constitute the preface to the document; in the New York plan, they are relegated to the appendix. These scenarios are not meant to be credible but rather to provoke response by contrasting two alternative views of the future. In this sense they are more like visions. They neither act as guides to preparation nor suggest strategies for action, but instead rally interest and prod people into thinking about the possibilities of the future.

Science Fiction

Over the past century, science fiction has proven a rich source of creative scenarios about the future. In *Yesterday's Tomorrows* (1996), Joseph Corn and Brian Horrigan survey past visions of the future ranging from H.G. Wells' dark view of technological advances to the more hopeful view of progress portrayed in television series such as *Star Trek*. Ever evolving, science fiction continues to produce new genres which offer up-to-the-minute science fiction portrayals of our unfolding future. One such genre is cyberpunk, a literature that's published primarily on the internet and is characterized by dark urban settings (Warren et. al, 1998).

As Cole (1998) notes, the city has traditionally played an important role as a backdrop for science fiction narratives. Warren et al (1998) observe that the cyberpunk genre has had a particular influence on contemporary urban theory (e.g. Davis 1992). In contrast to earlier urban visions, cyberpunk explores many dystopian visions of urban life besides the physical environment, including the displacement of government by multinational corporations, privatization of public services, surveillance and thought control. As farfetched as many of these scenarios may seem, a current example that resonates well is the growing digital hegemony under Microsoft, perhaps a harbinger of a single company's control over communication, memory and genetic codes.

As Warren et al argue, the cyberpunk literature may be a useful vehicle for introducing a broader array of themes to planning discussions about the future and for spurring more systematic attention to the multiple ways trends in technology may converge with economic, political and cultural aspects of society. The dystopic nature of cyberpunk narratives may also provide a foil for the reemergence of utopian visions in planning, which have unfortunately disappeared from fashion. Moreover, cyberpunk, as well as other genres of science fiction may

usefully serve as a model for the creation of persuasive stories about the future – the topic of our next section.

Construction of Persuasive Stories

As opposed to scenarios, persuasive stories are not meant merely to prepare their audience for the future, but to convince people to adopt the storyteller's preferred course of action. Storytelling is a mode of communication that's especially effective in contentious settings, where analytical argument frequently results in the further polarization of views.

Throgmorton (1992) identifies future-oriented story-telling as the core work of planning, and likens good planning to good fiction. As authors of stories, planners must persuade "interpretive communities" to accept their interpretive assumptions in the face of anticipated objections. The most effective stories, Throgmorton claims, are those that incorporate the literary techniques of plot, point of view, character, and use of tropes, and that weave conflict and crisis together in a compelling manner. Most importantly, the story must drive toward a convincing resolution of its inherent conflicts. This involves incorporating competing stories "into the author's own and having one of them (or some new story) win out in the end" (p. 19).

Throgmorton's emphasis on storytelling is reinforced by Rein and Schon's (1977) earlier work on storytelling as a method of problem-setting in policy research. These authors call attention to the central importance of the problem setting stage of policy development, noting that the very act of naming a problem points inevitably toward certain responses and away from others. For example, framing persistent indigence and joblessness in terms of a "culture of poverty" implies a cultural solution.

Embedded in the way we frame a problem is what Rein and Schon term a "generative metaphor," which provides a conceptual bridge between familiar and unfamiliar phenomena

and guides future action. In problem-setting, metaphor is the medium that “enable[s] us to gain, and convey essential insights into patterns of phenomena and to tease out lessons in the form of prescriptions for action.” Generative metaphors serve both an interpretive and a directive function; while they offer a way of understanding a problem, they also carry with them implicit assumptions and values that influence our action agenda. For example, an oft-stated metaphor maintains that a strong city needs a strong heart, and that the traffic arteries of a city are like blood vessels in the body. This directs our attention to certain remedies for congestion: build higher volume routes to the center of the city.

As any particular way of framing a problem has the effect of stimulating generative metaphors and closing down options, problem setting presents us with the dual tasks of making explicit the tacit values and assumptions we bring to the problem-setting process, and consciously choosing the generative metaphor that best expresses the problem.

Storytelling presents itself as a useful device for this purpose. Storytelling illuminates the whole of a problem by forcing problem setters to identify the key actors and the chain of events that lead to the circumstance perceived as problematic. Given that all stories are not equally valid, Rein and Schon suggest five criteria for judging a story’s soundness. First is the criteria of consistency. This refers to the extent to which a story arranges diverse elements into a plausible network of cause and effect. Second, the story should be able to be tested by empirical means. Third, the story should lead to a morally acceptable position. Fourth, the story should be actionable. And finally, the story would optimally hold up to the test of beauty – that is, the standard of “the grace, subtlety, elegance, or interest with which the elements of the theory or story are put together.”

Planners who are persuasive storytellers persuade by creating images of the past, present and future, and rhetorically employing scientific “facts” such as forecasts, surveys, and models

to show how these components fit coherently together. Persuasive storytellers also employ myth as a way of appealing to commonly shared values and establishing a point of view.

Example of New Urbanism

The rhetoric of the new urbanist movement provides a current example of the way persuasive storytelling is used in planning. As self-styled “architects of community” (Katz 1994), the new urbanists draw heavily on the myth of small-town America to gain collective agreement for their vision of future urban and suburban development. Rooted in nostalgia for a simpler, more virtuous way of life, the small-town mythology expresses a common understanding of our national character and values. Using design elements such as front porches, picket fences, and village greens as tropes, the new urbanists’ tap into Americans’ collective longing for idealized communities in which residents greet one another by name, neighbors trade easily in conversations and favors, and civic involvement runs high.

As the protagonists in their narrative, the new urbanists are combating the forces that perpetuate sprawl-type urban development, which they consider wasteful of natural resources, socially isolating, and aesthetically impoverished. Robert Davis, Chairman of the Congress for New Urbanism, has gone so far as to label the post-war suburbs as “junk,” a metaphor that implies the disposability of the current built environment, as well as the need for a development paradigm that’s more nourishing of human needs.

Those who support prevailing sprawl-like development practices have countered criticisms with persuasive storytelling of their own. A 1995 report sponsored by Wells Fargo Bank portrays contemporary suburban development as the realization of a utopian dream set forth by the “far-sighted futurists” of the 1939 World’s Fair, who correctly interpreted American’s desire “for a place where you could own a house, tend your plot, let your children ride their bikes in the streets and hear the jingling of crickets on a summer evening.” Paralleling

the new urbanism's myth of small town community, Wells Fargo appeals to American cultural values through the myth of country living.

Thus far, however, neither the new urbanists nor supporters of sprawl-like suburban development have used persuasive storytelling to its full potential. By and large, the new urbanists' literature has failed to conjure for its audience the visceral experience of community. A good story summons the sights, sounds, smells and sentiment of an environment such that the audience can project itself into the action and become one with it. Ironically for a movement that purports to trade in a sense of place, the new urbanists' narrative contains none of this evocative detail.

Similarly, the lack of sensitivity to their audience's needs on the part of advocates of suburban development has greatly handicapped their efforts to win support for their arguments. Their prescription for more of the type of development we have now undermines the audience's desire for a *better* future ahead. Their failure to acknowledge any validity to opponents' dissatisfaction with the contemporary landscape only serves to polarize the debate over sprawl, shutting opponents out rather than winning them over. Effective storytellers interpret opposing points of view within their own stories on the way to presenting their preferred resolution of the narrative's conflicts.

Moreover, as Throgmorton advises, good storytellers adopt flattering roles for both themselves and their opponents as a means of countering anticipated objections, and choose language that's appropriate to the standards of the community in which the planning action is taking place. Some proponents of sprawl-like suburban development have made forceful arguments but have cast opposing viewpoints in an unbecoming light, with the result that opponents have rejected their arguments out of hand. For example, a memorable article by Gordon and Richardson (1989) likening policies supporting public transit and compact urban

development to "Maoist" planning methods and the "Beijingization of America" clearly communicated the authors' aversion to government intervention, but in the process alienated those readers who did not consider planning a Communist enterprise. Despite the merits of its arguments, planners dismissed Gordon and Richardson's story because it didn't assign them a role that they could recognize and appreciate. As this example suggests, plans and their supporting stories must ultimately communicate with their intended audience or fail.

CONCLUSION

Current practice in planning addresses the future in ways that are superficial, shortsighted, or hollow. These approaches may be dictated by the caution required of planners employed by government agencies or who must seek the approval of elected bodies. In the absence of hard facts about the future, planners lack the proof required to substantiate any position likely to be challenged. Equally limiting is the absence of clear-cut theories or procedures for discovering or representing the future. Academics have contributed very little to this cause, leaving planning practitioners to their own devices. If they so desired, planning academics could surely help to build a more intellectually sophisticated and defensible approach to shaping the future.

Toward that end, this review has presented a survey of theories and tools by which planners can address the future with authority. No one of these theories or tools alone is adequate to the task of forging better futures. Taken together, however, these elements form a planning toolkit useful for construction of normative futures that are firmly grounded in time as well as space. Such grounded futures would respect the continuities of history as well as the reality of political forces and desires of the present.

The contours of a reinvigorated paradigm for addressing the future now become dimly visible. The foundation rests on the structure of political arguments over the future, one that emphasizes persuasive storytelling about desired futures. Those stories embed projections or forecasts within scenarios with plausible and attractive plot lines. Sophisticated planners recognize the structure of these narratives that weave together quantitative and qualitative facts or beliefs. Planners assist by helping to deepen the basis of argument for individual future alternatives. This includes assistance with quantitative models as well as with rhetorical packaging. Rather than embrace a single advocacy statement, however, planners maintain their professional objectivity through encouragement of multiple advocacy, helping to give shape to alternative viewpoints on the future. This yields a set of richly articulated and well-grounded visions of possible futures. Through consensual processes, planners can then help communities to negotiate preferred future alternatives forged from among the feasible or desired possibilities.

What is needed today is a new synthesis of skills that includes all of the lessons of the modern era – political relevance, public inclusiveness, quantitative technique, narrative, openness of communication, and more – while recovering lost emphases from the past. What is needed is a new commitment from planners to the creation of intelligent futures that are grounded within our capacities for change.

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