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University of California at Berkeley
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**PLANNING INSTITUTIONS IN THE NETWORK SOCIETY:
THEORY FOR COLLABORATIVE PLANNING**

by

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and

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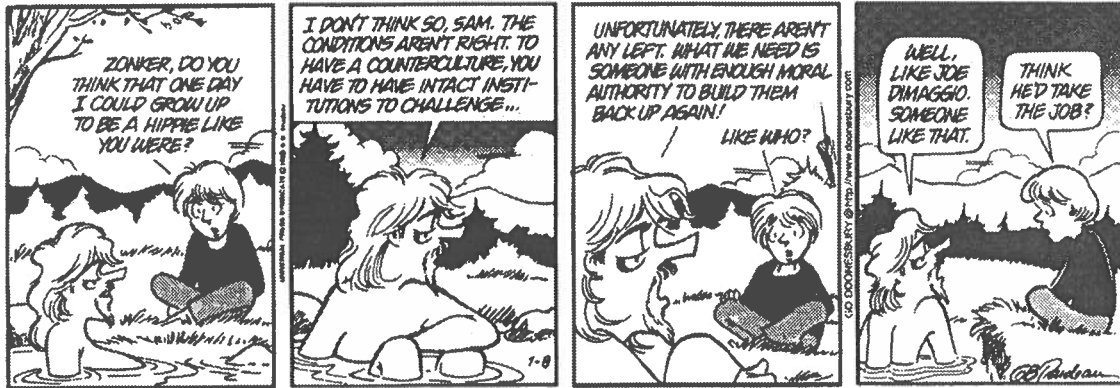
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Abstract

Collaborative planning institutions have recently emerged which differ in fundamental ways from more conventional modes of strategic spatial planning. They are designed to respond to fragmented political and social structures and the rapid changes of the information age. They are self-organizing, take different forms, and use their own norms and heuristics. They are based upon interdependence and include a wide diversity of participants who create shared meaning and identity. We suggest a typology to understand the new context for collaborative planning, offer examples from practice, and propose principles as a basis for a theory of collaborative planning.

PLANNING INSTITUTIONS IN THE NETWORK SOCIETY: THEORY FOR COLLABORATIVE PLANNING

DOONESBURY / Trudeau



Signs of the Times

In 1998, the governor of California had successfully maintained power for 8 years using combative, ideological politics and attacking welfare cheats, immigrants, affirmative action, and labor unions. The Republican gubernatorial candidate that year was even more aggressive in his negative and divisive style. By an astounding margin, however, voters elected a governor with a different style of leadership, heralded by the media as opening “An Era of Consensus.” It was said that Governor Davis’s biggest problem would be finding a table in the Capitol big enough to accommodate all the interests he wanted to bring together. He has made clear that all the interests have to work together to benefit all, and that no one, even his primary supporters, should expect to win at the expense of others. This 1998 election heralded a significant shift in the institutions of policy making in the state. In the older paradigm, leaders operated through the political influence model, where they tried to win support through coalitions, manipulation, and by appealing to ideologies. The newer model is the collaborative approach, in which leaders try to understand the full range of interests, bring them together to develop mutually beneficial opportunities, and develop innovative policies. Such leaders create an atmosphere where everyone must gain or no one gains, and they must always be ready to change direction upon new information.¹

Argument of the Paper

We argue that effective forms of strategic planning today are characterized by two features in particular: they are collaborative and they are self-organizing and adaptive to many unique conditions and problems. They are not hierarchical or bureaucratic, not dependent on authoritarian leadership, and not primarily grounded in the advice of technical experts. Instead, they involve simple heuristics

with decisions devolved to agents in the society, including agencies, groups, individuals, and businesses. The knowledge they rely on is socially constructed and shared among experts and nonexperts. The approach involves vision, but it is collectively created rather than the product of a single visionary. These strategies depend on power, but it is the power of networked relationships, shared information, identity, and meaning. They produce coordinated action, not because of rules, top-down control or even formal requirements for coordination, but because players develop shared understandings, use similar heuristics² and are governed by common norms.³ It is action that is linked through complex networks rather than through hierarchical structures.⁴ It is planning by doing and not just by thinking — planning through dialogue, interspersed with action. It is planning by setting in motion actions and activities for the management of space, as much as it is envisioning what that space should be like. It is about moving in a direction, but letting the future unfold, while players constantly monitor what is happening, get feedback and adjust their actions. The planning takes place not only at the table, but at the individual. It takes place not only ahead of time but continuously during action.

A Complex Systems View

As many have argued, we have entered an informational age because we depend so critically on the flow of information, and information itself represents the most important value added in many activities (Castells, 1996). Change has become rapid and increasingly unpredictable. Authority is fragmented and trust in government and in large institutions is low. There is a lack of shared values across and within societies. Businesses, individuals, communities, and societies that succeed are those which make connections and new partnerships, keeping constantly on the leading edge of knowledge. They innovate and adapt and never stand still.

It is helpful to draw on the ideas of complexity theory to understand how and why collaboration of many kinds is a productive strategy⁵ in an informational society. Complexity theory first appeared in the physical sciences (Prigogine and Stenger, 1984; Nicolis and Prigogine, 1989; Lewin, 1992; Waldrop, 1992; Kauffman, 1995), but increasingly some scholars are arguing that this set of ideas can also be powerful in understanding the functioning of social systems (Kiel, 1991; Wheatley, 1992; Kauffman, 1995; Hwang, 1996). These scholars contend that complex systems can mimic organisms in their behavior in uncertain changing environments (Capra, 1996). Unlike a machine designed to do a specific task in a defined context, an organism can adapt in response to information it gathers from its environment. It develops new activities and evolves as it “learns” about that environment. This learning occurs as individual “agents,” which might be molecules in the human body, ants in an ant colony, or computer-generated actions in a larger program, randomly move through their environment and respond to feedback by changing their actions. The ants, with their tiny brains and limited sensory capacity, quickly mobilize in large numbers to attack a bit of food left on the kitchen counter. Molecules change in a random way at first, but the most effective forms persist and develop further. Thus, a system made up of dumb individual agents can, as a whole, show tremendous intelligence, learning capacity, and ability to adapt and even innovate.

The hallmark of complex adaptive systems is “emergence” (Holland, 1998). Emergence is the idea that simple elements that are governed by a few basic rules, or heuristics, and that operate through trial and error where they have interaction and feedback can jointly produce persistent patterns that are quite unlike the original elements. Elements or agents which are most effective are those capable of collecting resources and generating new variants. Those which cannot do these things die out. The interactions among the simpler elements of the system produce higher or more complex levels of organization, just as atoms interact to form molecules, molecules to form cells, and cells to form organs. The result is increasing competence of the system as a whole in the form of greater productivity, stability, or adaptiveness.⁶

An adaptive learning system emerges in nature when the environment is unstable, but not completely chaotic. Stable environments lead to systems in equilibrium which are not able to adapt if major changes occur. In chaotic environments, systems cannot find productive patterns. At the “edge of chaos” — a good analogy to our current period of social transformation — innovation and dramatic shifts in activity patterns can occur and systems can move to higher levels of performance. Such innovation and productive adaptation, however, depends on information flows through linked networks of agents. Collaboration can provide such links and help participants each to do his or her part in creating a successful adaptive system.⁷

Network Power: Building Interdependence and Diversity

In particular, collaboration can help to develop “network power,” which is crucial in this informational age (Innes and Booher, 1998). Individual power and governmental authority are less and less able to produce successful outcomes in contemporary societies where formal power is fragmented, values are in conflict, and no one is really in charge. Network power results when linked players develop shared identities, meanings, perceptions of problems, agendas for action, norms and heuristics. This is not power growing from hierarchy, nor from the ability of one player to compel action of another. This power flows through a networked system of agents. All share in it, and it grows as it is used. Its strength lies in the way the players jointly internalize ideas and objectives so they can operate in a self-organizing, distributed way to achieve things they want collectively and individually. This power is enabled or comes into being because of activities which link agents together, providing them each information and feedback from the others and from their environment.

Network power is built on reciprocity. Agents in a network do not need to have equal power (though it is necessary for them to be equally empowered to speak and express their interests in a dialogue). They must, however, each have something others want and each must have something others can offer them. This exchange may involve one player having authority or resources and another, perhaps weaker player in conventional terms, having legitimacy or many supporters. One player may have first-hand knowledge of the issues, whereas another conventionally more powerful

Figure 1. NETWORK POWER MODEL

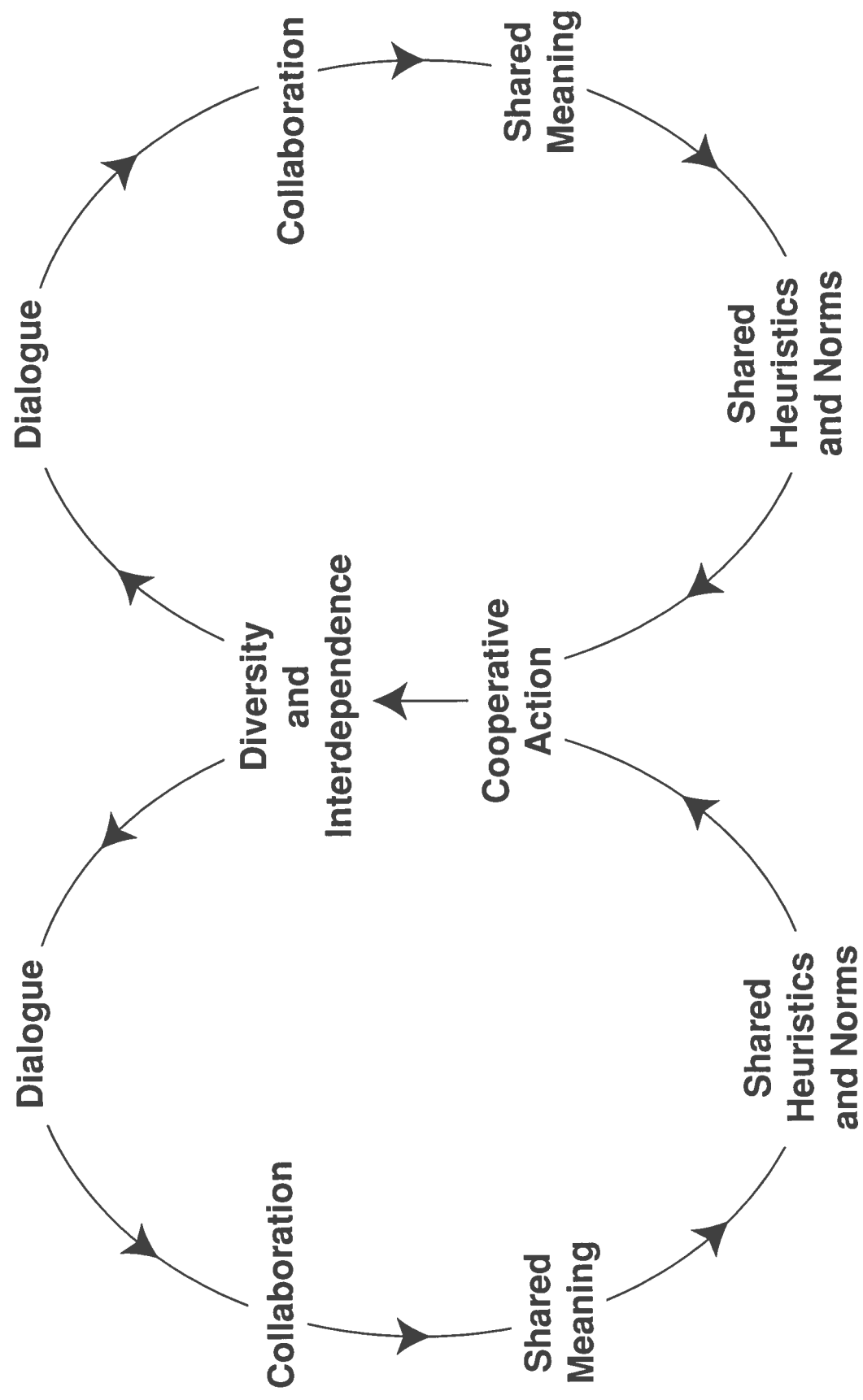
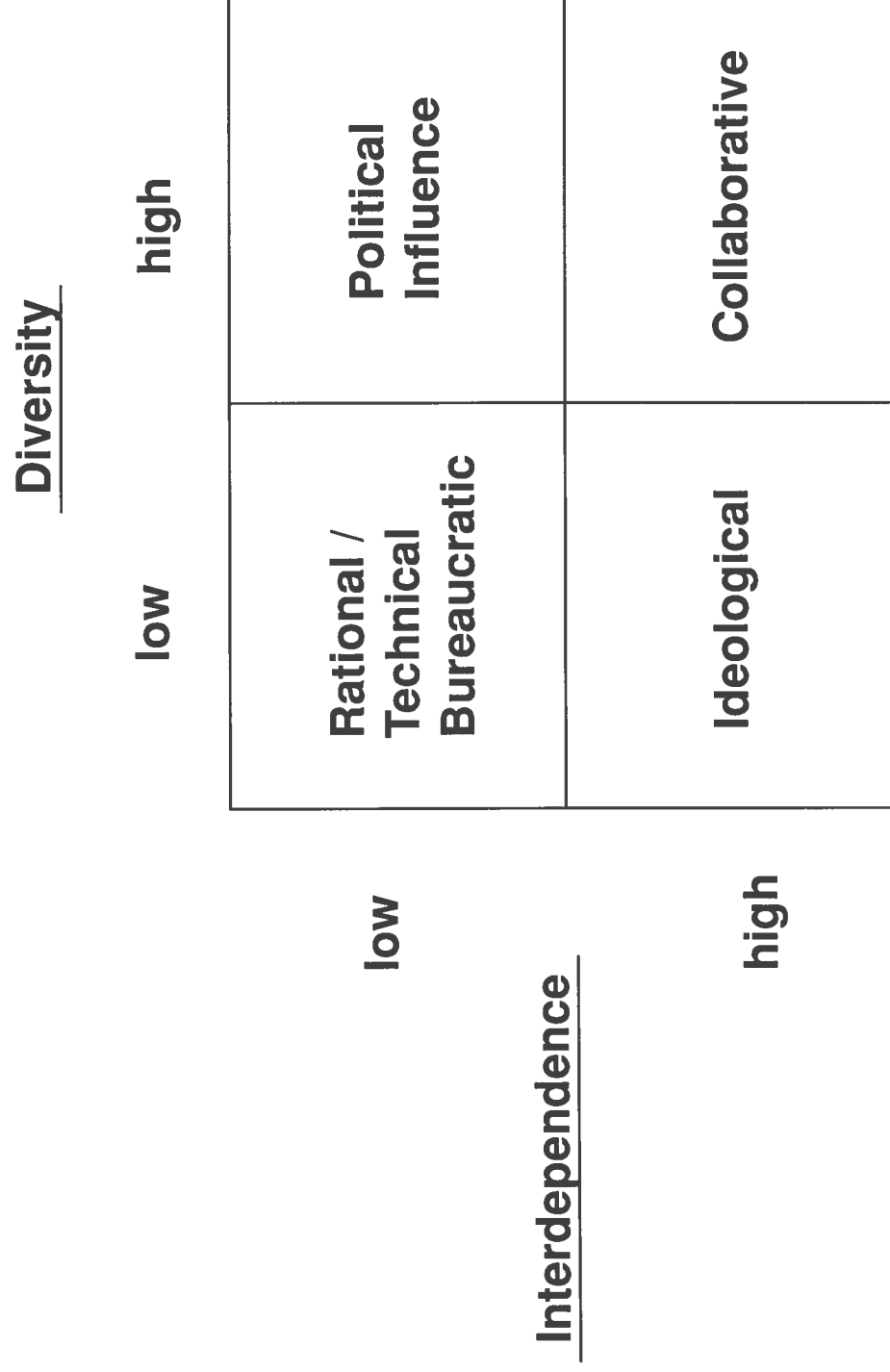


Figure 2. TYPOLOGY OF PLANNING STYLES



player suffers the worst impacts from the problem. Reciprocity typically means that both players gain by creating new opportunities because they share what each uniquely can provide. This reciprocity means the players may come to understand or even cultivate their interdependence. This, in turn, means they will have even more reason to continue to work together over time. Reciprocity is the glue that holds a network together.

This interdependence will be adaptive in proportion to the diversity of agents in the network. The greater the diversity of interests, knowledge, and potential contribution of each, the stronger can be the bonds of interdependence and the wider the range of possible innovations. As diverse agents collaborate, they build shared meaning, develop social, intellectual and political capital and shared heuristics for action.

A Typology of Planning Strategies

Building on the ideas of diversity and interdependence, we can develop a way of understanding how and why different institutionalized practices of planning work less effectively in contemporary conditions than collaborative planning.⁸ Each of the four modes in the matrix in Figure 2 is distinctive along these dimensions. For example, a planning effort focused on sustainable land use would be considered diverse if it included environmentalists, business, real estate, housing advocates, and social equity advocates. At the other end of the continuum is a process where only environmentalists are represented. A planning mode or institution in which interdependence exists is one where the individual agents recognize and benefit from the ways which they can work jointly or support and be supported by others with different interests.⁹

In the rational/technical style of planning, planners attempt to conduct an interest-free technical analysis to arrive at the optimum solution to achieve the goals of a decision maker who will, at least in theory, implement what they propose if their analysis is correct. While multiple interests may have negotiated over the goal to be pursued and they may enter in again when the decision is being made, traditional rational/technical analysis does not deal with diverse interests but focuses on the given objectives. Moreover, this approach does not cultivate the interdependence of interests and players, but depends on the analyst remaining aloof from such “political” considerations. This strategy of planning works best in conditions of high certainty and substantial collective agreement on goals (Christensen, 1985).

Another common way in which physical planning decisions are made in the U.S. is through political influence, or more colloquially, via the pork barrel. This approach, which some might not even call planning, may be de facto the single most significant institution of strategic planning. In this mode, a legislative body, political leader, or agency head, distributes resources for development projects, parks or whatever is widely valued to the powerful interests in the community or region. The distribution is done to consolidate the power of the individual or group doing the distribution and to assure loyalty of the recipients, rather than because of any rationale having to do with the needs of a city or region (Banfield, 1961). The political influence model equates strategic planning with making

sure key players are satisfied. This approach can incorporate a fairly diverse range of players (though it would normally not include those who are politically weak). What it does not do, however, is encourage the understanding of interdependence. All players link to the person or agency distributing resources rather than to one another. Indeed, this type of planning may be dominated by a “political boss” who calls all the shots and uses rewards and punishments, such as control over contracts or even forms of blackmail, to keep interests in line. An extensive literature over decades has documented the existence of this type of institution and its domination over rational/technical planning (Banfield, 1961; Flyvbjerg, 1998).

A third planning mode has become more common — that is, planning based on an ideology, typically growing out of a social movement. Such movements pursue a simple, shared vision for the future (Castells, 1997; Castells, 1998). They struggle to implement this vision through advocacy, demonstrations, litigation, public education, and lobbying. Environmental groups in the U.S. often fit this mold. In this mode of planning, there is little diversity of interests since the factor that brings all the participants together is their common interest in the vision or cause. This planning mode does involve a high level of interdependence among the participants, however. They frequently see themselves as joined in a war against elements of the surrounding society. They are highly dependent on each other to carry out actions, which often require solidarity in their public positions. This mode can tend to become rigid in its positions as a result.

The fourth mode is collaborative planning. This incorporates a wide diversity of the interests related to the planning issues at stake. The collaborative process in itself illuminates and fosters interdependence among this diversity of players. This form of planning can build a network of interdependence among its participants and successfully produce action and sustain itself over time. As we have argued elsewhere, it is also effective in extending the reach of network power. As a result, the participants frequently apply the norms and heuristics of collaboration to other arenas of concern and other planning tasks (Innes and Booher, 1998).

These descriptions of the planning institutions are ideal types, simplified versions for the purpose of discussion. They do not exist in pure form. A planning organization may exhibit elements of more than one type of planning working in parallel or even in conflict. Technical analysts may be subject to bosses who operate by political influence and who want analyses which support what they want to do and ignore them if they point in other directions. Ideological participants may work collaboratively with others, at least for a time, if they can win some concessions. Bosses who use the political influence model may develop collaborative methods as a way of co-opting players, while never really giving up their control of the resources. The collaborative approach may involve the technical analyses to answer questions a group raises or to set standards or objectives. The planning organization may, in the course of dealing with these competing practices, evolve toward using primarily one or another mode. But what is important is that each mode represents a different way of thinking about and conducting planning, and of working out decisions, strategies, and actions.

Collaboration

We take a broad view of collaborative planning.¹⁰ It can take the form of face-to-face policy dialogue with many or all interests around a table seeking consensus (Innes and Booher, 1999a). It can be a partnership of two or three players who join forces to create outcomes none can accomplish alone. It can involve linkages among networks of players. Or it can be symbiotic action by actors with different objectives and capacities, which is mutually supportive to the welfare of the whole.¹¹

Collaboration means not just working with allies, but also with one's competitors — even with one's enemies. That is both the strength and the danger of collaborative planning and the source of the tension that besets these emergent institutional forms. By working with one's competitors, a group may be able to create options that would otherwise not exist and for which there would otherwise be neither incentive nor opportunity. Genuine collaboration, it should be noted, is not to be equated with compromise. Compromise is merely getting different sides to share a limited resource. Collaboration enlarges the pie and creates better options than before. It has this potential because it involves reciprocity — working with players whose interests and resources are different from one's own.

Collaborative Planning Institutions: Some Cases in Point

In many countries today, small and large groups of people, representing different interests and with different knowledge and skills, are gathering to address contentious and complex public issues of development, resource protection, or quality of life. Ostrom has documented dozens of such groups around the world who have come together to manage a shared resource, such as a water supply or a fishery (Ostrom, 1990). Many other processes for collaborative planning have been described (Dukes, 1996; Susskind and Field, 1996; Susskind et al., 1999). Groups may include public agencies and private interests. They may be set up by government or be completely voluntary among stakeholders. Their mission and authority are often ambiguous. They may have power *de facto* to make a decision because their members are the players who act on the issues in practice. Or they may simply hope to influence elected officials, bureaucrats, or voters. These emergent forms of planning have become common enough that we can begin to see them as new types of institutions. They have in common that they are collaborative; they involve stakeholders with different interests; they are largely self-organizing; and they are each uniquely tailored to context, opportunities, and problems. They each take advantage of the strengths of their participants and their region. They are all very different from one another, yet they share a style of collaboration and mutual learning.

- In California, lobbyists for the state's most powerful interest groups have been meeting for 3 years in a consensus-building process to develop legislation to reform the state's ailing fiscal and governance structure. A central goal is to address the sprawling land use patterns and inadequate infrastructure that damage both the economy and the environment. Many of these bitterly opposing interests had never before sat at a table together to try to reach agreement, but they have now vastly narrowed their differences. They have identified key actions that most will support because they will improve the conditions for each of them. When they

finally agree, it is probable that the voters and/or the state legislature will support their proposals because the group represents most of the important and divergent interests in the state. The California Governance Consensus Project, as it is known, has become the only continuing arena where strategic issues of fiscal and governance reform are being systematically addressed.¹²

- In San Francisco, as in dozens of other major cities, community-based organizations have formed into a working cooperative network which has been labeled the “community sector” (Morris, 1998). They compete for funds from agencies and foundations, while also working together, to solve community problems and influence city government. In the cities where they are stronger and better networked, they have influenced the city to provide more affordable housing and better address the needs of the inner-city poor than cities with weaker, less networked community sectors.
- In Karachi, poor neighborhoods had petitioned the city for years to construct sewers, but had gotten nowhere. The sewage in the streets was causing disease and conflict among neighbors, as well as hindering economic development. A small group developed a training program, went into the neighborhoods, and got residents each to provide a few dollars from their meager incomes. They organized residents to dig the trenches and lay the pipes in their own neighborhoods. The idea caught on quickly and spread through the city. The result was new micro-enterprises in the cleaned up areas and a million new experts in building sewers, as well as heightened sense of community and empowerment.
- In California, where water wars have been in progress for a hundred years, a process called CALFED has brought together all the stakeholders in water from urban interests to agriculture and environmental, along with the 15 federal and state agencies which have conflicting authority and responsibility for distributing water or regulating its use. CALFED has produced agreement on a massive water bond and on a series of projects for providing water and mitigating the environmental consequences.¹³ U.S. Secretary of the Interior Bruce Babbitt spent much of the end of 1998 meeting with these players around the table, facilitating agreement with the incentive that the federal government would implement decisions reached consensually. The new heuristic to guide water planning in California is increasingly to build consensus rather than litigate, regulate, or prepare competing initiatives for new dams and water projects. In Chicago, historically one of the most politically conflictual of American cities, a transformation in spatial planning has begun. Mayor Daley invited all 269 other mayors in the region to join in a caucus to search out common approaches to such difficult questions as transit line extensions and how to comply with U.S. Clean Air Act requirements without having to halt industrial expansion. The Chicago Metropolitan Planning Council, a private civic action group, has started the Campaign for Sensible Growth, commissioning the American Planning Association to draw up a Smart Growth legislative package tailored to Illinois law. It proposes to establish a regional coordinating council to find ways to equalize funds across communities and create incentives and funding for compact development and redevelopment. Though conservatives have typically favored unfettered growth, the

Republican governor now agrees the state should preserve open space, reduce sprawl, and revitalize existing communities through redevelopment. The new strategy is not about state control. It is about transforming the rules of the game to “unleash the region’s full creative capacity and excel in the global economy.” It means change in government structure, taxing authority, and land use practices (Peirce, 1998).¹⁴ The process has started.

- Joint Venture Silicon Valley, which includes leading businesses along with public agencies and interest groups, has prepared a plan for a sustainable Silicon Valley¹⁵ addressing housing, transportation, air quality, and open space. They have published a series of performance indicators to call attention to conditions and establish benchmarks. They lobby for state and local legislation, encourage the development of urban limit lines, and seek funding for infrastructure projects. It came naturally to them to work cooperatively, as it is flexible linkages that have allowed this region to flourish (Saxenian, 1994).
- In cities and metropolitan areas all over the U.S., sustainable development working groups have formed. They include key stakeholders and local or regional interest groups, as well as public agency staff. They develop priorities, measure the status of the economy, environment and social conditions, and work on policies to help create a sustainable local or metropolitan system. These groups are locally networked and linked nationally and internationally to similar groups around the world, sharing information about practices, ideas, and indicators.¹⁶ The projects have no formal authority, but they have generated wide participation across interests and from national to grassroots levels. No one says what form they should take or what they should do, but they are playing a growing role in decisions about cities’ and regions’ development patterns both through their proposals and through the actions of their members.

A handbook published by the U.S. National League of Cities (Dodge and Montgomery, 1995) contends that strategic planning is essentially collaborative decision making involving the full range of regional interests. It argues that strategic planning is driven by regional purpose, but that it is incrementally applied and implemented, that it deals with uncertainty and rapid, uncontrollable change. The process is iterative and may even involve parallel processes around a region. It develops and institutionalizes a continuing capacity to monitor change, take advantage of emerging opportunities, and blunt incipient threats. It periodically redefines a vision that is ambitious but achievable and identifies the region’s competitive niches. It actively builds partnerships with related, and even competing, regions. This volume contrasts with the militant parochialism of local governments in the last 50 years in the U.S. It does not recommend regional government, but proactive regional collaboration involving public and private players.

Collaborative Planning as a Planning Institution for the Network Society

One of the preoccupations of social theorists in recent years has been whether civic cultures based in pluralist and other familiar institutions are dying. Some argue the public is disengaging from

the political institutions, leaving these to be controlled by a small corps of inside players. Robert Putnam, for one, has contended that such disengagement has occurred in the United States (Putnam, 1995). Others have presented relevant supportive evidence for this case both in the United States and in Western Europe (Burnham, 1982; Habermas, 1989; Hunter, 1991; Wattenberg, 1994; Gitlin, 1995; Inglehart, 1997; Cappella and Jamieson, 1997; Rahn, 1997). However, W. Lance Bennett suggests an alternative account (Bennett, 1998), arguing that citizen engagement is not declining. He contends that what is occurring is a shift from old forms of engagement and the emergence of new ones.

Replacing traditional civil society is a less conformist social world of the sort that Pool (1990) envisioned in which individuals were liberated from the grasp of governments: a society characterized by the rise of networks, issue associations, and lifestyle coalitions facilitated by the revolution in personalized, point-to-point communication.

—W. L. Bennett (1998, p. 745)

This idea of a shift to new forms of engagement offers a context to understand the emergence of collaborative planning institutions. The fragmentation, rapid change, and interdependence of the informational age create an environment where a premium is placed on creating identity and meaning, finding adaptive heuristics to navigate the decentralized structure of the new world, and building institutions capable of innovating and adapting (Giddens, 1994). Increasingly traditional institutions with their focus on conflict, centralized expert control, and rigid norms and values are incapable of meeting the needs of such a society.

Understanding these collaborative institutions as complex adaptive systems provides insight into how they emerge and why they are successful. As individuals and groups find the old forms of institutions are incapable of satisfying their needs, they look for new strategies and build connections with others with potentially similar interests. They develop shared identities, meaning, and heuristics around their striving to mutually satisfy their interests. A common denominator in all of these is the need to be both adaptive and to be innovative because of the acceleration of change. Continuous learning is a hallmark of collaborative planning.¹⁷ Flexible networks grow up around these relationships. The participants constantly evaluate how well they are doing and whether they should continue. Successful relationships are sustained and evolve. Unsuccessful relationships disappear. Changing conditions or interests may make a once successful relationship no longer useful and the search begins for new connections. The result is an evolving network of changing, adaptive institutions.¹⁸

The examples we offered above give some sense of the range of practices that fall under the rubric of collaborative planning. Each represents a new way of proceeding in the context and begins to substitute for planning practices that were failing. In the case of the California Governance Consensus Project, legislators had been unable to address the issues of fiscal and governance reform. The matter was too controversial and too complex. They had neither the time nor the inclination to take the political risks involved in this problem, which is so tightly linked to so many interests and issues.

Before the CGCP, the lobbyists spent most of their time heading off legislation they thought would harm their clients and preparing legislation promoting their interests. The idea of working with interests against whom they normally battle to find a proposal that would benefit all of them took some getting used to. The idea of including even politically weak social equity interests to make sure their proposal had legitimacy when it went before the legislature was also new. What the CGCP has ended up with, besides legislative proposals, is a highly diverse group of people who value working together because they have discovered, and learned to build on, their interdependence. The powerful teacher's lobby, for example, now can, instead of battling business interests which want lower taxes, work with them to raise the funds and develop the performance measures that will assure the improved education that both want.

In each of the examples, productive outcomes resulted from increasing the diversity of the participants and developing an understanding of the opportunities that become available as they identify the nature of their interdependence. In Karachi, when the residents began to see how their economic welfare, health, and community relationships depended on clean streets, it was possible to mobilize virtually everyone in the neighborhoods to contribute money and labor. They built capacity and community while building the sewers. California water policy agreements were reached through collaborative dialogue because participants learned they depended on action or inaction by the others if they were to have the water they wanted. Environmentalists knew that if the endangered fish and wetland habitat were to have adequate water, water supply and restoration projects would be needed. This meant they would have to get support from interests like the farmers and the business community. As one stakeholder kept reminding everyone, "We use different straws, but we are all drinking from the same glass."

There has been a proliferation of collaborative efforts at the regional scale around the U.S. to address problems for which there are no governmental agencies with authority. We no longer hear calls for a new layer of government — for metropolitan government to be created to solve these problems. Nor do we hear proposals for generic, one-size-fits-all regional programs. Instead, the strategy is an ad hoc organizing and mobilizing approach involving many stakeholders in collaborative, interlinked efforts. The idea promoted by the League of Cities Handbook is that stakeholders in the regions know what issues need addressing and that they are most able to identify the competitive advantages and directions for evolution of their own region. The Handbook concept fits very much the schematic diagram of Figure 1.

Each of these examples also fits a model of society as a complex adaptive system. A reading of the League of Cities Handbook sounds as if the authors had designed their system on the basis of complexity theory. It proposes a fluid, self-reflective planning system, depending on individual agents and groups doing constant monitoring and reassessment of direction. The approach does not depend solely on technical information and the cumbersome methods of formal research, but also on spontaneous dialogues engaging those who are in the region running businesses, protecting environments, or building roads. This planning system is more responsive than a hierarchical agency or legislature because it can adjust more rapidly to new information and opportunities as groups form and change, constantly instigating action and learning from whatever they try.

Principles for Collaborative Planning Institutions

We propose, in the spirit of building a theory of collaborative planning, a series of principles based on our argument that can guide planners and help scholars to understand how and why collaborative planning institutions work.

Diversity and interdependence are fundamental to both the emergence of collaborative processes and to their success. These are behind the demand for collaborative strategies and allow the participants to create innovative solutions and new, shared meanings. Success requires an interdependence equilibrium in terms of the contributions and incentives of the participants. Reciprocity is key to building trust and preventing deterioration into cooptation or zero-sum games.

The most robust and successful collaborative processes are self-organizing. These processes emerge from clusters of agents who come together as a result of their recognition of a need to break out of traditional strategies for action. These processes are not centralized, bounded, nor created by formal authority. They manifest the kind of innovation and co-evolution typical of self-organizing, complex systems.

Collaborative dialogue is much more than information exchange. Listening and talking evoke images, ideas, memories and reasons and create emotional connections as well as communicating information. Such dialogue creates common deliberative space in which shared meaning and identities can develop. The process encourages the development of common heuristics and norms which tacitly guide actions of the agents as they confront the future.

Collaborative planning institutions build on shared meaning and identity to create network power. The information age has placed a premium on shared meaning and identity because these no longer can be taken for granted. Such meanings facilitate mutual adaptation, enable resilience in the face of uncooperative strategies, and enhance the ability of these institutions to manage uncertainty, especially for the poor and otherwise disadvantaged.

Collaborative strategies, once established, transcend specific processes and infect the surrounding networks that the agents inhabit. When done right, collaborative processes can reproduce themselves. They provide robust solutions so the agents replicate these strategies in other parts of their networks, where these methods supplant less successful, conflict-driven strategies. The institution of collaborative planning is a mode of practice that can become pervasive and perpetuated through shared norms and heuristics.

Collaborative processes involve both structure and agency as they become more common and more institutionalized. The individuals and the organizations they represent, the interests these organizations are part of, and the alliances these interests form with others are the agents in this system. The structure itself is dissipative. Like atoms and molecules in a fast moving whirlpool, individual agents or groups of agents change constantly, but the

fundamental structure remains. It is the flow through this structure of collaborative processes that carries the power of the network, just as it is the flow of the atoms and molecules through the whirlpools that carries the power of the stream. The nodes or “switchers” between the networks are instruments of power, shaping, guiding, or potentially misguiding, society (Castells, 1996, p. 471). We believe planners are increasingly moving into roles as “switchers” or boundary spanners within and between collaborative planning institutions.

Collaborative planning is not for every condition. There are conditions that must be met for consensus building to be successful (Innes and Booher, 1998). There must be a mutual purpose, competent agents, conditions of ideal speech, and mutual respect and tolerance. There must be incentives, tasks that can be shared, and reciprocity.

In collaborative planning, plans are useful, but not if they become reified or sacred. Plans can be the shared space in which agents build meaning and identity or the canvas on which they paint alternative scenarios. Plans can be punctuation marks in the journey toward change and improvement of a place. Plans have to be created jointly, however, by stakeholders, not by visionary individuals alone. They must be transitory, changing as conditions, needs, or insights change. They are not blueprints, but tools for learning, educating, and moving forward.

Collaborative processes are changing the nature of representative democracy. Traditional planning and governing institutions cannot compete against network-based institutions. Legislatures will become like monarchies, purely ceremonial, while the real decisions are being done through collaborative, interest-based processes operating alongside them. Interest-based representation may turn out to be a more effective form than geographically based because it permits genuine exploration of interests and values. Collaborative processes are likely to increasingly produce results that are more acceptable to the public than those that emerge from traditional institutions.

Collaborative planning institutions may ultimately link across the globe in networked fashion creating shared meaning, norms, and heuristics across cultures, and political and economic systems. These relationships do not have to be formally created. They have already begun to develop issue by issue, across groups and individuals around the globe. They may ultimately help to address crucial issues of global sustainability and identify opportunities not even evident today, much less open to us.

Notes

- ¹ Bryson and Crosby described this model of planning long before it was as common as it is today (Bryson and Crosby, 1992).
- ² Our notion of heuristics is of a set of rules-of-thumb and ideas that tacitly guide actions of individuals and groups. We regard the different styles of planning as each reflecting a set of shared heuristics. Another form of shared heuristic is found in discourse coalitions (Hajer, 1995), where the participants share a set of meanings and therefore reactions to policy ideas and types of solutions they seek, without necessarily discussing the ideas among themselves. The idea of a heuristic may also include the notion of planning doctrine (Alexander and Faludi, 1996), a concept that guides planning so that many players incorporate the idea into their thinking, like the "Green Heart" in the Netherlands, or the idea of the Greenbelt around London.
- ³ In research on coordination of growth and environmental management policy, we found that players linked together through consensus building processes often created shared social, intellectual, and political capital (Innes et al., 1994). These forms of capital are a basis for the building of shared norms and heuristics.
- ⁴ Others have shown how coordination can occur through networked relationships rather than hierarchy (Alexander, 1995; Chisholm, 1989).
- ⁵ We have made this case more fully in a discussion of how to evaluate collaborative planning and consensus building and in a discussion of a new approach to metropolitan development and sustainability (Innes and Booher, 1999b; Innes and Booher, 1999c).
- ⁶ This phenomenon in which elements join to form larger, stable structures with new properties that could not have been predicted from the characteristics of their individual parts is known as "self assembly." Despite centuries of study, we still have little understanding about the forces that guide atoms to form molecules, molecules cells, and so on. However, recent research indicates that natural systems are constructed using a common form of architecture that stabilizes itself mechanically because of the way in which tensional and compressive forces are distributed and balanced within the structure. This form of architecture is referred to as "tensegrity." (Ingber, 1998) Our research as discussed here suggests that collaborative planning institutions are similarly self-assembled in a structure through a balancing of competitive and cooperative forces among diverse agents. We find it intriguing that the natural and social phenomena may in some way be parallel, and we think this is an area of research that is ripe for exploration.
- ⁷ We do not here address the application of complex adaptive systems to spatial patterns. However this is a field ripe for exploration. For example, a recent study looks at the cultural creation of fractal structures in pre-colonial African settlements. Fractal geometry is a fundamental tool for

the analysis of complex adaptive systems. Fractals are characterized by the repetition of similar patterns at ever-diminishing scales. (Eglash, 1999)

- 8 We note that each of these modes or styles of planning is in some important sense an institution. Each involves a set of practices, accompanied by norms, standardized roles and relationships among players and each is implemented through different heuristics to guide action.
- 9 This idea, while grounded in complexity theory, has significant parallels to James Thompson's (1967) important arguments on interdependence in organizations.
- 10 Healey's important recent articulation of collaborative planning in spatial policy (Healey, 1997) is consistent with our perspective, although we are emphasizing here the conceptual dimension of many of the kinds of institutional forms she describes and discusses.
- 11 This type of collaborative work has been widely noted in the business world as the key to innovative and successful regions and industries (Saxenian, 1994; Davis and Meyer, 1998) just as teams are increasingly seen as the way to manage an internally innovating organization. The idea of teamwork and collaboration has been less theorized about in relation to government and to public planning than in the business literature.
- 12 Booher is Co-Chair of this project. The project was partially financed with a grant from the William and Flora Hewlett Foundation.
- 13 Information about this program may be found on the web at <http://calfed.ca.gov/>
- 14 Peirce's columns can also be found on the Citistates website: (<http://www.citistates.com/index.htm>).
- 15 This plan can be found on the web at <http://www.jointventure.org/siliconvalley2010>
- 16 For example, a sustainability web ring has been developed on the Internet, where accessing one sustainable development organization or advocacy group allows rapid access to others (<http://sdgateway.net/webring/default.htm>).
- 17 This continuous learning process was nearly identified in planning 30 years ago as part of a collaborative approach. At the time, the practices were uncommon enough that this prescient book did not have the influence it might have had if it had first been published in the 1990s instead of the 1970s (Michael, 1973).
- 18 We take note of recent research in game theory which supports the view that cooperative strategies are over time more successful than other strategies. This research suggests that over time cooperative strategies will replace those based on non-cooperation. (Axelrod, 1984; Bendor and Swistak, 1997)

References

- Alexander, E. R. 1995. *How organizations act together: Interorganizational coordination in theory and practice*. Gordon and Breach Publishers.
- Alexander, E. R., and A. Faludi. 1996. Planning Doctrine: Its Uses and Implications. *Planning Theory*, 16 (Winter):1161.
- Axelrod, R. 1984. *The Evolution of Cooperation*. New York: Basic Books.
- Banfield, E. C. 1961. *Political Influence: A New Theory of Urban Politics*. New York: Free Press.
- Bendor, J., and P. Swistak. 1997. The Evolutionary Stability of Cooperation. *American Political Science Review*, 91(2):290-307.
- Bennett, W. L. 1998. The UnCivic Culture: Communication, Identity, and the Rise of Lifestyle Politics. *Political Science and Politics*, 31(4):741-61.
- Bryson, J. M., and B. C. Crosby. 1992. *Leadership for the Common Good: Tackling Public Problems in a Shared Power World*. San Francisco: Jossey Bass Publishers.
- Burnham, W. D. 1982. *The Current Crisis in American Politics*. New York: Oxford University Press.
- Cappella, J. N., and K. H. Jamieson. 1997. *Spiral of Cynicism: The Press and the Public Good*. New York: Oxford University Press.
- Capra, F. 1996. *The Web of Life: A New Scientific Understanding of Living Systems*. New York: Anchor Books.
- Castells, M. 1996. *The Information Age: Economy, Society and Culture*. Vol. I, *The Rise of the Network Society*. Cambridge MA: Blackwell Publishers.
- . 1997. *The Information Age: Economy, Society and Culture*. Vol. II, *The Power of Identity*. Malden MA: Blackwell Publishing.
- . 1998. *End of Millenium*. The Information Age: Economy, Society and Culture, Vol. III. Malden MA: Blackwell Publishers Inc.
- Chisholm, D. 1989. *Coordination Without Hierarchy: Informal Structures in Multiorganisational Systems*. University of California at Berkeley: University of California Press.
- Christensen, K. S. 1985. Coping with Uncertainty in Planning. *Journal of the American Planning Association*, 51(1):63-73.

- Davis, S., and C. Meyer. 1998. *Blur: The Speed of Change in the Connected Economy*. Reading MA: Addison Wesley.
- Dodge, W. R., and K. Montgomery. 1995. *Shaping a Region's Future: A Guide to Strategic Decision Making for Regions*. None given: National League of Cities.
- Dukes, F. 1996. *Resolving Public Conflict: Transforming Community and Governance*. Manchester U.K.: Manchester University Press.
- Eglash, R. 1999. *African Fractals: Modern Computing and Indigenous Design*. New Brunswick NJ: Rutgers University Press.
- Flyvbjerg, B. 1998. *Rationality and Power: Democracy in Practice*. Chicago: University of Chicago Press.
- Giddens, A. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. University of California, Berkeley: University of California Press.
- . 1994. *Beyond Left and Right: The Future of Radical Politics*. Stanford CA: Stanford University Press.
- Gitlin, T. 1995. *The Twilight of Common Dreams: Why America is Wracked by Cultural Wars*. New York: Henry Holt.
- Habermas, J. 1989. *Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge MA: MIT Press.
- Hajer, M. A. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford: Oxford University Press.
- Handy, C. 1994. *The Age of Paradox*. Boston MA: Harvard Business School Press.
- Healey, P. 1997. *Collaborative Planning: Shaping Places in Fragmented Societies*. PlanningEnvironmentCities. London: MacMillan Press Ltd.
- Hecht, P. 1998. Growth Built on Natural Resources: Sierra Business Group Stresses Environment. *Sacramento Bee*, November 18.
- Holland, J. 1998. *Emergence: From Chaos to Order*. Reading MA: AddisonWesley Publishing Co. Inc.
- Hunter, J. D. 1991. *Culture Wars: The Struggle to Define America*. New York: Basic Books.
- Hwang, S. W. 1996. The Implications of the Nonlinear Paradigm for Integrated Environmental Design and Planning. *Journal of Planning Literature*, 11:167-80.

- Ingber, D. 1998. The Architecture of Life. *Scientific American*, 279(1, January):48-57.
- Inglehart, R. 1997. *Modernization and Postmodernization: Cultural, Economic and Political Change in 43 Societies*. New York: Basic Books.
- Innes, J. E., and D. E. Booher. 1998. Power and Planning in the Network Society: Consensus Building as Action Strategy. Association of European Schools of Planning. Aveiro, Portugal, July 22-25.
- . 1999a. Consensus Building as Role Playing and Bricolage: Toward a Theory of Collaborative Planning. *Journal of the American Planning Association*, 65 (1, Winter): 9-26.
- . 1999b. Consensus Building and Complex Adaptive Systems: A Framework for Evaluating Collaborative Planning. Forthcoming in *Journal of the American Planning Association*, 65 (4, Autumn).
- . 1999c. Metropolitan Development as a Complex System: A New Approach to Sustainability. *Economic Development Quarterly*, 13 (2, May): 141-156.
- Innes, J. E., J. Gruber, M. Neuman, and R. Thompson. 1994. *Coordinating Growth and Environmental Management through Consensus Building*. CPS Report: A Policy Research Program Report. University of California, Berkeley: California Policy Seminar. 270 p.
- Kauffman, S. 1995. *At Home in the Universe*. London: Viking.
- Kiel, D. 1991. Lessons from the Nonlinear Paradigm: Applications of the Theory of Dissipative Structures in the Social Sciences. *Social Science Quarterly*, 72:431-442.
- Lewin, R. 1992. *Complexity: Life at the Edge of Chaos*. New York: MacMillan.
- Michael, D. N. 1973. *On Learning to Plan and Planning to Learn*. Jossey Bass Behavioral Science Series. San Francisco, CA: Jossey Bass Publishers.
- Morris, E. 1998. Urban Redevelopment and the Emerging Community Sector. Ph. D. Diss. Berkeley: University of California.
- Nicolis, G., and I. Prigogine. 1989. *Exploring Complexity*. New York: Freeman.
- Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, MA: Cambridge University Press.
- Pearce, N. R. 1998. Chicago Regional Initiatives: National Model in the Making. *Washington Post*, December 13.

- Pool, I. d. S. 1990. *Technologies without Boundaries: on Telecommunication in a Global Age*. Cambridge MA: Harvard University Press.
- Prigogine, I., and I. Stenger. 1984. *Order out of Chaos*. New York: Bantam.
- Putnam, R. D. 1995. Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America. *Political Science and Politics*, 28(4):66483.
- Rahn, W. M. 1997. Media Messages, Political Culture, and National Identity. Annenberg Policy Center Workshop on Mediated Politics : Communication in the Future of Democracy. Washington DC.
- Saxenian, A. 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
- Susskind, L., and P. Field. 1996. *Dealing with An Angry Public: The Mutual Gains Approach to Resolving Disputes*. New York: The Free Press.
- , S. McKearnon, and S. Carpenter, eds. 1999. *Consensus Building Handbook*. Thousand Oaks, CA: Sage Publications.
- Thompson, J. D. 1967. *Organizations in Action*. New York: McGraw Hill.
- Waldrop, M. M. 1992. *Complexity: The Emerging Science at the Edge of Chaos*. New York: Simon and Schuster.
- Wattenberg, M. 1994. *The Decline of American Political Parties: 1952-1992*. Cambridge MA: Harvard University Press.
- Wheatley, M. 1992. *Leadership and the New Science*. San Francisco: Berrett Koehler.