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ABSTRACT

Growth management has been part of US land use planning practice for decades, and a large number of activities has been developed and applied over time. The rather fragmented toolbox comprises traditional activities, like growth caps and urban growth boundaries, in conjunction with smart approaches such as transit oriented development and new urbanism-related design features. The emphasis of growth management research has been to highlight the different programs enacted at state and/or local levels. Because the scope of growth management requires myriad different tools, land use researchers must keep pace with emerging approaches, and this paper contributes to that discussion. The analytical aspect, however, will be elaborated through theoretical planning considerations.

Putting the two realms together—planning theory and stakeholders' experiences—are both rather new approaches in growth management research. This paper examines both the theoretical and empirical sides of growth management. The first component deals with discrepancies in the practice–theory discourse concerning growth management by developing a research framework for characterizing growth management strategies based on theoretical concepts. One of the principal challenges is to find a common denominator in planning theory that has the potential to serve as a bridging philosophy. The principle of interdependence is a starting point for these considerations. The second component of this paper assesses the underlying goals of growth management and analyzes different methods in use, including their advantages and disadvantages, in planning practice in the San Francisco Bay Area.

Growth Management in the San Francisco Bay Area: Interdependence of Theory and Practice[1]

Karina Pallagst

1. Multiple Theories in the City and Regional Planning 'Store'

"Theories can help alert us to problems, point us toward strategies of response, remind us of what we care about, or prompt our practical insights into the particular cases we confront" (Forester, 1989: 12).

Forester's statement captures the essence of my approach to growth management. I consider planning theory essential to understanding planning processes and growth management practice, which are broad and complex. In this regard, planning theory mirrors planning practice the same way practice reflects theory. I will start with two observations:

First, there is no ideal planning practice just as there is no single ideal planning theory. Friedmann observes that planning theory consists of many components. In his attempt to identify what he refers to as 'groups of theorists' he explains, "These groups should not be taken as alternative to each other or be seen as standing in competition for the one 'true' theory, but rather as highlighting different facets of planning in western democratic societies" (Friedmann 1995: 157). Similarly, Mandelbaum points out that planning practitioners deal with multiple theories when he declares, "Instead, we are engaged by a crowded field of theories (and lay theoreticians) entangled in one another and embedded in social relations" (Mandelbaum 1996: xv). When referring to a practice–theory gap in planning, Schönwandt (2002) points out that an integrated approach toward what he calls 'constructs in planning' is missing, yet it should be provided by planning theory. These ideas are complementary to Alexander's thoughts on interdependence among planning theories, to which I will refer later in this paper. The value for this study lies in the hypothesis that the existing fragmentation of planning theories and practice approaches might be challenged by interdependence rather than by competition of thought.

Second, the theoretical basis of city and regional planning should not be viewed as fixed, but constantly evolving.[2] In retrospect, modernity, postmodernism, and communicative action—just to mention a few meta

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[1] The paper was presented at the annual conference of the Association of European Schools of Planning (AESOP) in Vienna, July 16, 2005.

[2] Campbell and Fainstein (2003: 2) speak of a "continuing evolution of planning theory."

theories—have influenced the range of today's planning theories and planning practices in the USA as well as in different planning cultures all over the world.

Despite of this broad array of theories, a vast portion of planning theory discourse makes no thorough reference to planning practice, and vice versa. There is no 'method' for exchanging knowledge between planning theory and practice, so it is largely unclear how theory influences planning practice, and it is also unclear how the spectrum of planning practice problems finds its way into theory.[3] As Healey describes this process, "Ideas and issues do filter through to practitioners, via planning education, planning literature and conferences, but in an undisciplined way. Similarly, new problems in practice filter slowly into the consciousness of academics" (Healey et al. 1982b: 17).

Nevertheless, from planning practitioners' perspective, the diversity of theoretical planning discourse and its constant evolution is considered an opportunity to understand the evolving processes that planning practice must face. As one of the few practitioners writing about planning theory, Thompson articulates what theory should offer: "Theory can be an early warning system preparing planners for new influences. It can also help consider how these new influences can be absorbed into current practice, what the consequences could be, and what alternative responses are available" (Thompson 2000: 130).

My theoretical considerations scrutinize the 'absorption' of theories into practice. To define the theoretical basis of a project dealing with growth management, under the conditions of the broad theoretical range that exist today, I consider it necessary to take a closer look at different theories. This requires partly stepping into planning history, because theories are still characteristic for certain growth management activities that are applied today (hypothesis 1); and growth management cannot be related to one (meta-) theory, but is influenced by different theories overlapping each other in a more or less fragmented way (hypothesis 2).

These hypotheses rely on the ideas of Healey, describing the array of planning activities with the metaphor of a 'store' (Healey 1997: 7): "Every field of endeavor has its history of ideas and practices and its traditions of debate. These act as a store of experience, of myths, metaphors and arguments, which those within the field can draw upon in developing their own contributions, either through what they do, or

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[3] Teitz claims that planning theory's influence should not be underestimated regarding planning practice, since it "shapes the profession over time in subtle ways" (Teitz, 1996: 652).

through reflecting on the field. This 'store' provides advice, proverbs, recipes and techniques for understanding and acting, and inspiration for ideas to play with and develop."

Embracing the metaphor of a store, this paper's objective is not only to explore growth management as an important tool of city and regional planning in the US, but also to gather knowledge about the influence of different ideas, or theories, in and of planning and their relations to growth management practice.

The first part of this paper discusses planning theory typologies to develop a simple research framework in which growth management approaches can be characterized as well as communicated to and discussed with planning practitioners. A range of meta theories will result in a range of typologies or planning styles, but scholars have discussed a multitude of planning typologies since departing from systems analysis and procedural planning theories as the dominant paradigm.[4] Exploring these typologies will assist in the development of a research framework for growth management.

On the meta theory level, theories such as modernism, postmodernism, and communicative action—just to mention a select few—have influenced today's planning theory and methods. All of them have their masterminds, followers and critics. Diverse and competing arguments can even be found within these theories, which form a composition that is far from homogeneous. Already in the 1980s, Healey et al. concluded that "in the 1970s, we witnessed the rise of a number of competing theoretical positions in the urban and regional planning field with little debate between the positions and with general ignorance on the part of members of any one position of the concerns of any other position." They refer to this phenomenon as "theoretical pluralism and collective ignorance" (Healey et al. 1982b: 5). While theoretical pluralism has widened, what about collective ignorance? As both Alexander (2001) and Allmendinger (2002) observed 20 years later, although from different viewpoints, this problem is not yet solved and probably never will be.

If we take a closer look at this problem, we find that planning theorists themselves are not satisfied with the 'closed-shop' appearance of

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[4]   The development of city and regional planning theories is related to different paradigmatic shifts, which means the adaptation of familiar methods and concepts centering on a theoretical school. Although the application of the term 'paradigm' in the strong Kuhnian sense (Kuhn 1970) has been criticized in terms of city and regional planning (Taylor 1999 b), paradigmatic shifts or paradigm breakdowns can be observed. The widest-reaching of these shifts, by far, is from modernism to the post-modern era. Since the 1970s, a large number of meta theories have been introduced, which often center on competing ideas, yet they share the urge to break with modernism.

the different theoretical planning discussions. One of Soja's observations is that, "unfortunately, such categorically postmodernist and modernist responses have dominated and polarized the current literature, leaving little room for alternative views" (Soja, 1996: 4). This view is shared by Allmendinger: "Post-positivism […] has a suspicion of 'closure' or definition particularly through postmodern social theory," which leads to the "reluctance to reflect on the landscape in planning theory generally" (Allmendinger 2002: 84). Taylor argues in the same direction when he states, regarding procedural planning and postmodernist thought in planning theory, that there is a "curious bifurcation in planning theory which has persisted to this day" (Taylor, 1999: 161). He suggests, however, the possibility of a 'merger' between collaborative planning and procedural planning in a way that a planner can be a skilled expert and successful communicator at the same time. Although the ideas of the technical era are neglected by postmodernist discourses, the activities developed in a rational-modernist sense can still be traced in planning practice. And it is not clear if, and how, the alternative approaches correspond with each other (Alexander, E. 2001). Alexander observes the competitiveness of thought between postmodern and collaborative theories (Alexander 2001). Unlike others, he—finally—offers a solution to fill this gap: the principle of interdependence.

I argue, in line with the scholars mentioned above, that a platform for openness or critical exchange of these theoretical thoughts should be provided. This might be of help for planning practice, and that is—coming back to the Forester citation at the beginning of this section—what planning theories should be about.

Following these thoughts and based on further explorations in planning theory, this paper is motivated by an attempt to develop a research framework for characterizing growth management strategies. One of the principal challenges will be to find a common denominator in planning theory, which has the potential to serve as a means of merging different planning theories and planning activities.

For this reason, complexity theory might offer an approach to explore the conjunction of different planning approaches, as it is anticipated in this study. Innes and Booher (1997, 2000a, 2000b) have emphasized the need to view planning situations as complex adaptive systems related to the changing requirements of society towards planning. They do nevertheless build their explorations of collaborative planning on complexity theory to 'deal with change and complexity in dialogue'. Yet there is more to complex planning situations than collaboration. Procedural, post-modern, collaborative and many other ideas add to this. Complexity lies in the requirements of linking people, procedure and

content, which means involving diverse stakeholder groups and decision makers, using planning tools wisely, building on the existing institutional capacity, and applying 'good' urban policies. Theoretical planning ideas as well as planning practice have thus to be viewed as interdependent.

One interpretation of interdependence in planning is offered by Alexander (2001). He refers to the principle of interdependence to attempt to bridge existing gaps in planning theory and practice. In doing so, however, he focuses only on postmodern planning and collaborative planning.

What is the origin of the principle of interdependence, and where does it have its anchorpoint in theory? Interdependence is a term developed in the wake of systems theory in the 1970s. In (computer) systems, the items are connected in an interdependent way. Systems theory is, however, very static and technocratic and widely oversimplifies real-world processes, which makes it hardly applicable for urban development (although it was widely praised during its time). For this reason, a more contemporary approach, taking into consideration fragmented activities, multiple actors, uncertainty, and change within society, has to be applied. Complexity theory, a more evolutionary approach to systems theory, seems to be the more appropriate context for explaining interdependence in this regard. Complexity theory was developed through the physical sciences during the 1980s. In addition, complexity theory is considered to be helpful for understanding the processes within social systems (Capra, 2002). Complex systems are adaptive and of emerging character. Following the thoughts of complexity theory, Innes and Booher define cities as "living organisms functioning as complex adaptive systems" (Innes and Booher, 2000a). Interdependence is considered a relation between actors, creating 'network power' (Innes and Booher 2000b). The focus of Innes and Booher, however, concentrates on collaborative action and, as such, leaves out the rational notions of planning, which still exist in practice.[5]

My understanding of interdependence is characterized by connecting different planning theories *and* different activities of planning practice and by observing their interactions with each other. It embraces the metaphor of a store of planning theories, methods and practice, and it is based on the idea that multiple theories and multiple practices exist not

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[5]   Innes and Booher are quoted frequently here because there is a lack of research regarding complexity theory in relation to planning theory. To highlight this research gap, the Association of European Schools of Planning (AESOP) established a new thematic group "planning and complexity" in the year 2005.

just in parallel to each other, but in an overlapping, even cross-influencing mode.

Interdependence lies at the heart of complexity in planning, as it acknowledges the existence of numerous requirements in planning from visions to actions. It is clear that interdependence represents a counterpart to fragmentation. A fragmented set of planning tools and methodologies leads to confusion in planning processes because, if the existing connections of the planning activities—for example, growth management—are not considered thoroughly regarding their interactions, the outcomes might be counterproductive.

For planning practice, this means developing a new interdependent view of planning. Hopefully, this will offer the chance to an open access to Healey's planning theory 'store'-metaphor mentioned above. Nevertheless, interdependence should cultivate more than a 'store' where planners acquire ideas and methodologies without considering effects and relations of their choices, be it rational plan making or collaborative workshops.

2. A Theoretical Framework for Investigating Growth Management

The purpose of this paper is to gain further knowledge about the possibilities of exploring different theoretical planning approaches in planning practice in a way that is interdependent. Different (fragmented) theories have shaped the currently existing set of planning approaches over time. For this reason, a theoretical framework for the different growth management approaches could help to provide a classification of these planning approaches. Ideally this classification would be based on a set of different planning theories.

Further exploration reveals an expanse of literature that categorizes and discusses planning theories and planning techniques—one of them with the purpose of grouping activities for further investigations (e.g., IOER to classify planning practice approaches), and most of them with the purpose of underpinning one specific planning theory (e.g., Innes argues from a collaborative planning viewpoint; Alexander observes postmodern and collaborative discussions from a rationalist-procedural planning perspective; Allmendinger offers a post-positivist typology; and Fainstein links her arguments to a post-Marxist political-economy approach with what she calls the 'just city'). Some of them are clearly based on one another (e.g., Allmendinger's considerations are based on Yiftachel's thoughts, and to some extent Fainstein's ideas); others have been

developed embedded in practice-oriented discourses (e.g., IOER's context is to apply sustainability in planning practice). All of them overlap, to some extent, in referring to communicative action, post-positivism or rationalist ideas. Altogether they draw a wide-ranging map of theoretical planning thoughts.

2.1. Exploring Planning Theory Typologies

In order to define a research framework for growth management based on interdependence, a selection of theoretical planning classifications is explored in this section. Then I introduce and explain my own typology of theoretical planning thought.

Healey et al. (1982). By the time Healey et al.'s book was written, systems analysis and procedural planning theory had already peaked, and planning theorists were searching for and developing new, alternative thoughts. Although Healey et al.'s typology-approach, after more than 20 years, can no longer be considered contemporary, its significance remains in the fact that it was one of the first classifications to draw a map of planning theory outside of rationalist-modernist thought and that it tried to find a platform, a 'common ground,' for the new planning theories to interact and exchange with one another. "Our concern is to re-establish critical communication, as an aid to sharpen theoretical focus of existing positions and encouraging theoretical development" (Healey et al 1982b: 6).

Interestingly, at that time, modernism was still somewhat a centerpiece of planning theory.[6] What is referred to as 'procedural planning theory' is either viewed as a starting point of new theoretical positions such as social planning and advocacy planning, implementation and policy, and incrementalism, or opposed by approaches like political economy, new humanism, and pragmatism (Healey et al. 1982b: 7; compare also the post-positivist comments in Allmendinger, 2002). The emerging theories are described as somewhat an offspring of a learning process out of systems analysis and procedural planning theory. All of them focus on a stronger engagement in planning practice, which employs a different view of planning than procedural theory. One example is Lindblom's (1959) theory of incrementalism. It is in line with implementation or 'action'-oriented theories as suggested by Friedmann (1969, 1973). Pragmatism seems to offer a complete departure from theory while concentrating on 'getting things done' in practice. Another strand of

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6   Compare the figure in Healey et al. 1982b: 7.

theories adds the notion of content to the planning process by putting emphasis on values and stakeholders, which had not been provided by systems analysis and procedural planning theory. Here, Healey et al. display, for example, social planning and advocacy planning, where planners act in favor of specific interests. Marxist theory focuses on planning as a state activity supporting working class interests and as an intervention in capitalist (market-driven) interests. Another more radical strand of theory, new humanism, is based on idealized interaction and individual self-learning among societal groups.

The intention of Healey et al.'s piece is to advocate an exchange of ideas among different theories with respect to planning at the verge of departing from modernist thought: "Having argued against a new theory hegemony in planning, the position paper puts forward simple procedural rules. The aim of this is to create and sustain critical communication between those who do not necessarily agree about theory but recognize they are working in the same field" (Healey et al. 1982a: 2). At this point already, planning theory and planning are obviously evolving, which could lead to further confusion in planning practice.

Friedmann (1987). Friedmann offers a structured view of what he calls the 'terrain of planning theory' (Friedmann, 1987: vii). His work is embedded in an action-oriented approach towards planning. From a planning history perspective, he characterizes planning traditions such as policy analysis, social learning, social reform, and social mobilization.

Social reform is a method seeking to institutionalize planning practice, while planning is viewed as a task of the state, which has to be improved. Policy analysis is embedded in the worldview of systems analysis and procedural approaches in planning and offers a fairly simplified model of decision-making in an 'ideal' planning process. Social learning is a rather pragmatic approach emphasizing 'learning by doing' (Friedmann 1987: 81). In this case, knowledge is not derived from expertise, but from experience and practice. Social mobilization distinguishes the schools mentioned here by its 'bottom-up' view of planning. Social movements, which lie at its heart, are influenced by Marxism, utopianism and anarchism. Having dealt with these planning traditions, Friedmann lays the cornerstone for a new or, at that time, emerging approach: radical planning. This action-oriented way of theorizing focuses on the 'political community,' the citizens and their actions 'from below' (Friedmann 1987: 314). It serves the broader purpose of social transformation, and thus emphasizes self-empowerment and self-reliance in planning. It is a planning theory of struggle, contradictions and merging—or as Friedmann puts it, "an amalgam of analysis, social vision,

and hard strategic thinking," all of them based on practical experience (Friedmann, 1987: 389)

Friedmann's attempt, in exploring the roots and approaches of planning theory from engineering sciences to sociological thinking, makes clear that there is no homogeneous body of planning theories, but a broad and multifaceted bundle of thought that is getting more complex through time. Moreover, the different notions the knowledge factor can have (from technical expertise to learning by doing and many more) are of interest for this paper. The attempt to merge planning theory and planning practice is also a thought worthwhile considering for developing the framework to analyze growth management.

Yiftachel (1989). In addressing the fact that "an alarming gulf has been created between theory and practice" (Yiftachel 1989: 23), Yiftachel identifies three strands of planning theory that, according to his observations, developed in a parallel mode: analytical approaches, urban form approaches and procedural approaches. He bases these strands on what he calls fundamental questions facing urban land use planners. Tackling analytical aspects, he asks, "What is planning?" Dealing with urban form aspects, he queries, "What is a good urban plan?" And focusing on procedures, he inquires, "What is a good planning process?"

Although Allmendinger has critiqued Yiftachel's typology for being too linear and 'teleological' (Allmendinger, 2002: 90) and because of the persistence of the substantial-procedural divide[7] in his argumentation, it contains several thoughts that are of interest for this study. First of all, Yiftachel acknowledges that the three strands of theory can be seen as complementary ideas rather than competing ones. This is a thought that corresponds with my approach towards interdependence in planning theory.

Of interest is also the fact that he breaks down the substantive component of planning theory into two strands by distinguishing urban form and content. This adds the urban design as an equally important strand to the substantial-procedural divide. Since design has been rediscovered by planning discourses in the US in recent years, especially embedded in a movement referred to as 'new urbanism,' these considerations will be explored as part of my research.

Fainstein (1999). With the 'communicative model,' the 'new urbanism,' and the 'just city,' Fainstein explores three very different

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7   This concept is one of the first classifications in planning theory, provided by Faludi (1973 a; b).

approaches to planning theory in terms of their contributions to improving the quality of human life (Fainstein 1999).

As a critic of systems analysis and procedural planning theory, she leaves out these planning theoretical thoughts in her classification, although she acknowledges that there are still 'defenders' of this line of thought (Fainstein, 1999: 1). For this reason, she concentrates on what she refers to as 'post-positivist' approaches. She does, however, clearly separate them from post-modernist ideas, which often remain neglecting current planning practice. Fainstein suggests: "Although strategic and substantive issues separate the three schools of thought described here, they share an optimism that had been largely lacking in previous decades. Sustaining this optimism depends on translating it into practice" (Fainstein 1999: 19).

Fainstein's argumentation is not a value-free discourse about the three strands of planning theory. Her thoughts are anchored in a post-Marxist political economy approach, which favors the 'just city' theory. The other two strands of planning theory are critiqued, deconstructed and overall displayed as unpractical. The post-positivist direction outlined here seems to be suitable to support rather practicable planning solutions, since planning practice is viewed as one central aspect of the investigations: "…each [type] points to a distinctive path for both planning thought and planning practice" (Fainstein 1999:1). The conclusion for this study is that the link between the bandwidth of the existing growth management tools, which have been developed under the influence of rationalist planning, and Fainstein's post-positivist scenario should be explored. Interestingly, Fainstein stresses my argument about the fragmented link between planning theories and planning practice when she observes, "Differences among the types reflect the enduring tension within planning thought between a focus on the planning process and an emphasis on desirable outcomes. In the recent past, neither tendency has fully dominated, as theoretical orientations toward process and outcome have respectively affected different aspects of practice" (Fainstein 1999: 2).

It is, however, difficult to find growth management approaches, which clearly correspond with the idea(l) of the just city. The 'just city' goes beyond collaborative planning in its attempt to involve stakeholder groups in a more radical, advocacy-style way. Although critiqued by Fainstein, collaborative planning with its democratic values seems the appropriate medium to respond to the requirements on participation based on the just-city theory.

Institute of Ecological and Regional Development (1999).
The approach developed by the Institute of Ecological and Regional
Development (IOER) does not quite fit into the line of grand theoretical
thinkers presented in this section. Rather, this classification of planning
activities was developed in 1999 as a pragmatic by-product for the "local
and regional planning instruments for sustainable regional development"
project (Institute of Ecological and Regional Development 2001). It can be
seen as one of the starting points of my considerations on typologies of
planning activities. IOER's project observed the growing complexity of
planning systems in different European countries. It required a view of
planning that did not rely solely on the modernist approach, focused on
plans and plan-making based on normative regulations as the major task,
but one that connected the creation and implementation of multilayered
planning and development processes. The project group developed a
classification of planning activities into the categories of formal
instruments, informal instruments, incentives, and information-oriented
instruments.

Formal planning instruments are binding regulations, based on
legislations. They are grounded on an organizational framework within the
political-administrative system. They support the implementation of
planning objectives and normative regulations. As such, they are part of
the normative aspect in planning processes and enable planning to be of
binding character.

So-called 'informal planning instruments' incorporate ideas of
collaborative planning. They support decision-making within the planning
process and provide for a flexible and consensus-oriented implementation
of planning goals. Main features of informal planning instruments are their
process-oriented character, which is based on public participation and a
project implementation. Its focus is the search for joint solutions by
various state, local, or private actors.

Incentives can exert strong influence when it comes to planning
decisions. Embedding incentives in a coordinated way in planning
processes can foster the implementation of planning goals. Furthermore,
they enhance the effectiveness of planning goals by providing financial
stimuli (carrots and sticks).

The role of information-oriented instruments in planning processes
is growing. The use of Geographic Information Systems (GIS), in
particular, supports communication processes and helps monitor plan
implementation. Moreover, GIS facilitates efficient use of data, which can
enhance the knowledge base in planning processes.

The value for this paper is that IOER's approach is one of the few classifications of planning theoretical ideas that have been directly linked to an exploration of planning practice.

Innes and Booher (2000b). Innes and Booher introduce a typology of what they call 'planning styles,' which are based on planning theory considerations (Innes and Booher, 2000b). They distinguish among the rationalist/technical style, planning through political influence, advocacy planning, and collaborative planning.[8] They describe the rationalist model as an ideal-world approach, which is highly technical, but at the same time misses taking diverse interests into consideration. Political planning is characterized by decision-making processes, which are biased by a few elite key players. Advocacy planning, a highly popular planning style in the US, brings many people to the table to lobby for one specific interest. Innes and Booher (2000b) point to environmental groups as a prominent example of that planning style. Collaborative planning aims to create a self-sustaining network of actors, representing diverse interests.

Comparing the rationalist approach with collaborative planning seems helpful for the study of growth management activities, since these styles employ techniques which planning practitioners apply in their daily work. Advocacy planning and planning through political influence, however, seem more intertwined, because advocacy groups can greatly influence political decision-making. Innes and Booher acknowledge an overlapping of these planning styles, yet focus their research on the collaborative approach. My focus is broader, arguing that planning practice has to face all of the planning styles mentioned above.

Alexander (2001). In this classification, Alexander deals primarily with collaborative planning theory and postmodern thought in planning theory. He goes further than mere description by developing a 'synthesizing framework' based on the principle of interdependence. He attempts to describe Habermasian communicative action and Focauldian strategic rationality as complementary approaches that must be linked.[9] In

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8 The four planning styles were further refined by Innes and Gruber (2001), when they distinguished among technical bureaucratic planning, political influence, social movement, and collaborative planning.

9 In prior publications, Alexander studied different lines of planning theory in search of alternatives that might underpin procedural planning theory. Then, he already referred to interdependence, but more specifically, to what he calls a "contingency theory for planning" (Alexander 1996). In these publications, he vigorously argues in favor of procedural planning, the theory strand he once helped to develop. For this study, I chose to refer to his latest publication, since further considerations likely were added to the theoretical discussion by the year 2001.

so doing, Alexander goes even further than Healey et al.'s 'store'metaphor described earlier.

Although his paper basically centers on the postmodern-collaborative debate, he clearly points out that these two paradigms are insufficient to solve the multifaceted tasks in planning practice: "Neither the realist Focauldian nor the idealist Habermasian can ignore the existence of instrumental-functional interdependence" (Alexander 2001: 317). Instrumental-functional interdependence is rooted in modernist planning traditions, which has brought about planning processes and organizational structures.

The conclusion for this paper—based on Alexander's observations—is that planning practitioners must combine the bits and pieces of activities, communication and strategic negotiation according to specific planning situations.

Interdependence, or the merging and mixing of different planning theories, might be the future of planning theory if planning theory intends to keep pace with planning practice.

Schönwandt (2002). Another interesting contribution to theoretical planning classifications from the German literature comes from Schönwandt (2002). He distinguishes seven models which have been the focus of basic theoretical planning discussion since the 1960s: rational planning, advocacy planning, (neo)Marxist planning, social justice planning, social learning and communicative action, radical planning, and liberal planning.

He observes overlapping and evolutions among all of these models and points out that all of them have their role in today's planning practice. His intention is, however, to provide an integrated approach towards these theoretical thoughts, which he calls planning theory of a third generation (Schönwandt 2002: 30). His structuring of planning activities is guided by a set of questions that planning practitioners should consider in their work (Schönwandt 2002:162ff). The questions deal with the planning problem, planning terminologies, constructs in planning, explanations about the mechanisms of cause and effect, and planning methods.

Schönwandt's acknowledgement of parallel modes of planning styles is very useful, as is his attempt to integrate them to offer support for planning practice. Also of interest is his provision of a systematic approach, which is defined in relation to the particular planning context.

Allmendinger (2002). Allmendinger's typology of planning theory is the most recent attempt to classify planning styles and theories. His post-positivist approach seeks to overcome the procedural-substantive divide, with respect to the discussion of theories *in* planning and *of* planning, by claiming a "more normative dimension that diffuses such a duality" (Allmendinger 2002: 83) and interlinks facts and values. This exploration—like most of the others mentioned above—displays the fragmentation and complexity of contemporary planning theory. Allmendinger classifies planning theory approaches in chronological order, as do Yiftachel (1989) and Friedman (1987), since planning in practice and theory follows the 'store'-metaphor of choosing ideas that might fit one specific situation at one specific location or underpin one specific argumentation.

His typology distinguishes five groups of theories (Allmendinger 2002: 89ff.): framing theories, social scientific philosophy, social theory, exogenous theory and indigenous planning theory. Framing theories are described as epistemologies, discourses, world-views and paradigms. Modernism and postmodernism belong to this category. Exogenous theories influence space and policy-making processes, while emphasizing one particular aspect of society. Allmendinger places theories of democracy, cognitive psychology, regime and regulation theory, implementation theory, central-local relations, and nationalism in this theory 'store.' Social theory has had strong influence on planning theory. In this regard, Allmendinger particularly refers to critical theory, structuration theory, genealogy and archaeology, and rational choice theory. Social scientific philosophy includes broader categories such as positivism, falsification, realism, and idealism. Social theories are closely related to these philosophical considerations. The fifth type of theory is what Allmendinger refers to as 'indigenous planning theory.' A mix of approaches can be found in this category, including Marxism, advocacy, systems, rational comprehensive, design, collaborative, and neo-pragmatic theories. These theoretical streams are influenced by various ideas from the other types, but in addition, their specific contextual frame related to space, time and institutional settings also imprints them.

Allmendinger's distinction as such is simple and leaves a lot of room for classifying the existing body of theories and probably future ideas as well. At the same time, it shows huge complexity, as the typology helps—almost like genealogy—to display historic development of and influences on existing (indigenous) planning theories, which are manifold. That is why, for example, collaborative planning overlaps with all of the categories mentioned above through a large number of their sub-groups. Still, it is this complexity that makes the typology not easily usable for

classifying approaches in planning practice, a methodology that I intend to explore further. In search of a link to planning practice, one might focus on the fifth category 'indigenous planning theory,' though it would exclude other approaches.

Several ideas in Allmendinger's typology-approach are useful for this study. One of his observations is the closed-shop tendency of postmodern planning theory. As mentioned above, this is one of the considerations that inspires my endeavor to trace theoretical planning influences in growth management practice. Allmendinger's observation is an attempt to overcome Yiftachel's limited view of relating theories to a certain period of time in the 20th century. As Allmendinger shows, theoretical thoughts can be traced back to antiquity, but they also can be re-invented in contemporary times. His outreach from a postmodernist/critical theory perspective towards modernism and consensus building at the same time is also important for framing the notion of interdependence in planning practice and theory.

2.2. Setting Up the Theoretical Framework

Analyses of planning theory clearly reveal a picture as multifaceted as the tasks planning practitioners have to face in everyday planning. The many typologies that have been developed in planning theory give me the opportunity to reflect on a large number of already existing typologies and to develop a 'mix and match' classification of planning approaches that, hopefully, offers a connection to growth management practice and thus widens the planning store. As mentioned at the beginning of this paper, the attempt to connect different planning theories in order to overcome fragmentation and thus enhance the performance of planning practice is one of the basic considerations of my theoretical approach.

There is no specific way to describe how theories influence planning practice. Here it should be noted that I do not claim that every growth management activity relates to one specific planning theory. Such a view would be too simple. With respect to the imprecise and rather unknown process of how planning theories find their way into planning practice, I attempt instead to search for patterns, links or similarities between theory and practice. For this reason, one consideration should be that the framework be 'kept simple,' which means that it should be communicated easily to stakeholders in practice.

Further exploration shows that, although growth management has been grouped into categories before, there has been no theoretical discussion in terms of growth management approaches; the categories

were more or less intuitive relying on perceived objectives of growth management.[10] Based on the investigation of planning theories, an approach of clustering growth management activities will be developed and applied in this study, as outlined by the following paragraphs. This clustering comprises the following aspects:

1. Regulation-oriented: Setting limits for growth/preserving space
2. Incentive-oriented: Fostering decisions
3. Design-oriented: Shaping the urban environment
4. Collaboration-oriented: Involving stakeholders
5. Information-oriented: Providing knowledge

Though a multitude of approaches is used to manage growth, only a select number of these tools can be presented and included in the study. They represent, however, a selection of means used since growth management's beginning as well as newer developments. Along with a brief description of the categories, these real-world growth management approaches will be linked to the typology.[11]

Regulation-oriented. Modernist concepts, especially procedural and systems analysis aspects of planning can be identified in a large number of planning approaches. Especially in growth management, the regulative ideas of setting limits for growth and preserving open space are characteristic expressions of this worldview, which is today highly criticized.

In the growth management discussion, regulations obtain their own definition as "… the specific controls applied to different types of development activities to regulate their impacts" (1000 Friends of Florida 1992). This unspecific definition indeed stimulates the suspicion of fragmentation. Growth management activities referred to the 'regulation-oriented' category are, to a great extent, part of traditional planning in the sense of 'plan making,' as they are directly dealing with land issues. Methods to be explored along this strand are: urban growth boundaries, urban development tiers, mixed use, coordinated infrastructure planning, and protected space outside of settlement areas.

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[10] Porter, for example, distinguishes among different growth management techniques, such as community expansion, natural resources, community infrastructure, quality of community life, economic opportunities and social equity (in one category!), and regional and state guidance (Porter 1997).

[11] The selection of growth management activities is based on a literature review of growth management practice in the US with special emphasis on practice in California. Compare among others: Szold, Carbonell (Ed.) 2002; Calthorpe, Fulton 2001; Carruthers 2002; Cervero 1998; Stein (Ed.) 1993; Daniels 1999; Knaap 2001; Porter 1997.

Incentive-oriented. Incentives in growth management are grounded on the idea that traditional plans have to be accompanied by monetary mechanisms to support the implementation of planning goals. This is especially the case in a market-oriented planning realm as in the US. For this reason, a large number of growth management tools can be found in this category. However, they are applied on a voluntary basis so that there is no guarantee that, even if the tools are there, they will be applied. This uncertainty of the incentive-approach is the main difference between regulatory instruments, such as urban growth boundaries, and the incentives category. Growth management incentives that will be investigated in this paper are tax benefits, purchase of development rights, density incentives such as building advantages, and joint use of taxes.

Design-oriented. This classification was chosen based on Yiftachel's and Fainstein's typologies. It corresponds with the revival of design by means of the 'new urbanism' movement[12] in US planning. Cunningham speaks even of a new "restorative-development megatrend" (Cunningham 2003: 2). Design aspects are not as elaborated in planning theory as regulation or collaboration, but there certainly exists an epistemic community around the topic of 'new urbanism', which might bestow upon design the status of a new paradigm in US planning.

The link to growth management is derived from the observation that growth has the potential to change the character of a community and thus affects citizens' perceptions of quality of life. Design as a concept of shaping growth has found its way into planning in recent years through redevelopment and downtown revitalization projects, where taking the surrounding neighborhood into consideration is a key issue. Design is imminent in the planning process since it adds an aesthetic component to the functional realm and can have a significant effect on the quality of place. In this respect, design is becoming a more important feature in discussions about how development should take place in the US. The 'new urbanism' movement, as a label for neighborhood design that draws inspiration from traditional city planning, was created in this regard. Small-scale orientation, sense of place, and—where possible—transit orientation characterize this approach, which has become popular all over the US. Consequently, the occurrence of new urbanism will be investigated in its relation to growth management.

Collaboration-oriented. Collaboration will be investigated here in the practice- and 'action'-oriented sense explored by Innes and

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[12] On the principles of New Urbanism, see Duany et al. 2000, and Leccese; McCormick 2000.

Booher. The general question is in the ways stakeholders are involved in planning processes. The methodologies might comprise small-scale approaches, such as stakeholder involvement, all the way up to collaborative programs on a multijurisdictional scale. Moreover, inter-local cooperation will explicitly be explored within the focus of the 'collaboration oriented' perspective.

Collaboration-oriented approaches will also be viewed as tools to sustain aspects of democracy, ethics and legitimacy in the planning process. They are the only means planners have to observe power and equity issues. In this regard, it will be observed if they take Fainstein's 'just city' approach (Fainstein 1999) into consideration.

Information-oriented. As one concept related to be 'broken down' for the theoretical framework, the idea of the information society will be used. Planning does not work without information. Innes, an expert on collaborative planning, gives a notable explanation for the necessity of integrating various types of knowledge into planning rather than merely employing the rational approach to planning theory, as routinely done until the beginning of the 1990s: "The standard model of using quantitative and scientific information for 'rational' calculation by experts and formal choice by decisionmakers does not deal well with questions such as the effect of unique qualities of individual contexts and communities, with qualitative issues such as values, nor with intuitive and "how to" knowledge. … As the positivist view of knowledge, on which this standard model is based, is challenged by a phenomenological view (Bernstein 1976), we begin to develop corresponding alternative models for how to link knowledge and action" (Innes 1991b: 16).

The importance of information technology as a paradigm is expressed by Castells. He refers to the Internet as the main tool causing an 'information technology revolution' (Castells, 2000: 28). In planning, information technology has a special role with the use of Geographic Information Systems. Castells claims that new information technologies should not only be seen as applicative tools, but as parts of development processes.

Since the relation of knowledge and stakeholders will be explored in the 'collaboration-oriented' category, Castells's technological interpretation of information which has reference to GIS in planning is the starting point for this aspect along with the considerations made by IOER. The approach to be explored is land use monitoring systems (GIS supported).

Closer examination shows the 'store' idea of planning to be unhomogeneous and somewhat disorganized. It can be characterized as something that is 'messy'—in planning terms, fragmented and highly disconnected, even comprising competing theoretical discussions. The need to provide integrated solutions for planning practice is, however, persistent. The crucial question regarding growth management is: How does a planning task—procedural by nature—function today when current planning paradigms require collaboration, complex ways of thinking, and dealing with ever-changing knowledge and uncertainties? Which growth management activities have proven successful, and which do planning practitioners prefer? These considerations lead to the question: Which aspects should planning practitioners consider in dealing with today's multifaceted planning sphere, and growth management in particular? These issues will be dealt with in the empirical part of this paper, when interdependence is discussed in connection with growth management practice.

3. Growth Management: Investigations in the San Francisco Bay Area

Putting the two realms together, planning theory considerations and stakeholders' experiences, are both rather new approaches in growth management research. One important aim of this paper is to assess the underlying goals of growth management and to analyze the different activities employed, including their advantages and disadvantages in planning practice in the San Francisco Bay Area.

In organizing planning tools—for growth management, for example—it is necessary to make room for a broader and more flexible evaluation. This will be based on the experiences and examples derived from stakeholders in growth management of the case study region, the San Francisco Bay Area. My stakeholder-based approach is a qualitative one, mainly inspired by Forester's (1989, 1999) collaborative ideas. Growth management will thus be explored from the perspective of the actors who carry out these tasks as well as other stakeholders who are involved in growth management practice. [13]

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[13] In this regard, interviews with stakeholders in land use and growth management were carried out to obtain information on the modes of application of different growth management activities. In addition, the stakeholders were also asked to comment on different typologies of growth management. To prepare for the interviews, I developed a questionnaire, which served as a guideline for discussion. The questions were divided into general aspects of growth management, implementation aspects of growth management in cities and regions, and growth management examples.

Some of the main findings are summarized below.

Since the beginning of the 1970s, growth management approaches have been introduced in the San Francisco Bay Area's cities and counties. According to the stakeholders included in the investigation, no 'high tide' of growth management can be identified. Initiating growth management was related to a wide variety of activities, again showing no concentration on one specific tool, but rather fragmentation.

The interviews made clear that, by the middle of the 1990s, all communities had some experience with growth management. It also became obvious that there seems to be a **lack of consistency** and fragmentation in growth management approaches.

Moreover, development **shifts through time** can be noticed from containment (limit lines), to inner city approaches (infill and transit orientation) to regional development (Livability Footprint Project[14]). Growth management was also following changing patterns in the location of sprawl, starting in the city of San Francisco and moving to adjacent suburbs to the south and north towards the East Bay.

Most of the interviewees stated that **administrative boundaries**, either of cities, counties, or the nine-county San Francisco Bay Area, do not represent planning concerns that support growth management. They demand a balance between urban centers and the use of land in a broader region-wide sense.

In many cases, the growth management approach was initiated by **citizens**. Their cities and neighborhoods changed rapidly with the enormous suburban growth in the San Francisco Bay Area during the 1950s and 1960s. Most of the target cities for sprawl were located in rural areas, which transformed into bedroom communities for the city of San Francisco. Today, citizens' concerns for limiting growth are often related to fears of neighborhood changes and to safety issues. Preserving the environment through growth management eventually became recognized as a way for citizens to disguise their NIMBY[15] attitude.

In terms of **counties and cities**, costs related to infrastructure provision, such as schools, water and sewer, are the primary reason for employing growth management. Infill development and dense land use

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[14] Association of Bay Area Governments (2002).

[15] NIMBY stands for 'not in my backyard'.

patterns requiring less funding for infrastructure are favored as the efficient delivery of services becomes essential. In some cases, traffic congestion is the main reason for using growth management tools. In other cases, water supply restricts the expansion of a city.

High land costs give **developers** great incentive to consider high-density development, prompting great motivation for planners to apply growth management related tools.

As **examples of tools**, which are frequently applied in the San Francisco Bay Area, I will briefly present the findings regarding urban growth boundaries and inter-jurisdictional and regional cooperation.[16]

Some of the jurisdictions involved are not using **urban growth boundaries** as a regulative tool either because it has not been their policy, or because they did not have space to grow outward and therefore do not need a limit line. For many cities, however, an urban growth boundary is the major growth management tool. Most of the boundaries were brought up by voter initiatives during the 1990s, which shows the growing influence of stakeholders within the planning process. Usually, growth boundaries are implemented for a period of twenty years, but a few cities have established permanent boundaries. As there are more of these slight differences in the use of urban growth boundaries, some examples will be described in this section.

In San Jose, the most important tool is the Urban Green Line, a permanent growth boundary. However, the city has sufficient growth reserves within this line. The Green Line policy has been widely criticized, as it foresees a new large high-tech development in a rural area, which creates land use conflicts (Matthews, G. 2002). While the development would enhance the city's jobs–housing balance, it would consume a large amount of open space.

The city of Napa's growth boundary is called the Rural Urban Limit Line (RUL). In the case of Napa, there is only very limited space to grow within the boundary. The purpose of this boundary is to preserve the high-quality agricultural land of Napa Valley's wine areas. In this region, agriculture is a major economic factor in terms of the product and of tourism.

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[16] Both tools represent very different approaches towards growth management: one (urban growth boundary) a regulative tool, the other (inter-jurisdictional and regional cooperation) a collaborative method.

The city of Petaluma changed its policy during the 1990s by creating an urban growth boundary on the basis of the city's green belt, which was established during the 1970s. As mentioned earlier, Petaluma is one of the pioneers of growth management in California. The policy change towards the growth boundary was enforced by voter initiative.

In Marin County, the entire county is divided into three parts: the city-centered corridor, inland rural corridor, and coastal recreation corridor. The city-centered corridor line separates urban from rural areas on a county-wide scale. An urban growth boundary is also in use in Santa Clara County, but it is stated to be a more theoretical idea, as water and sewer aspects managed with the urban service area are more important. Interestingly, in Alameda County the urban growth boundary is considered a good tool for disputes with developers or farmers who want to sell their land to developers.

A remarkable example is Contra Costa County, which incorporated an urban limit line in 1990. In the year 2000, the limit line was moved closer to the cities in one area, which is an unusual example. The 'normal' approach is to expand urban growth boundaries along with a city's development. The county's procedure was strongly opposed, but it found the voters' approval. In 2010, the county must set up a new general plan. In this regard, the urban limit line must be discussed again.

Inter-jurisdictional and regional cooperation was mentioned by almost all cities and counties. However, many of the activities are informal and comprise of a loose cooperation. These efforts are deemed not very intense, and always voluntary. The aim is rather to identify mutual interests than to solve problems. It was mentioned by many stakeholders that, in practice, there are numerous meeting groups, but the results of them are not always visible.

An interesting example for a closer cooperation is currently taking place in Napa County. The county has difficulties in fulfilling the requirements of the Housing Element Law in its unincorporated areas. For this reason, the planning department is cooperating with the biggest cities in the county, Napa and American Canyon, to estimate the possibilities for an allocation of 2000 of the county's additional housing units in their territory. The cities and the county are currently in the process of balancing their interests. The prospects for the cooperation are positive, as cities in Napa County have a long-standing tradition of organized meetings.

Several more programmatic examples, following a participatory approach, have been established at regional and county levels. Firstly, the Smart Growth Strategy–Regional Livability Footprint Project was initiated by the Association of Bay Area Governments to handle growth-related problems like traffic congestion and lack of affordable housing on a regional scale. Secondly, Contra Costa County launched Shaping Our Future, a new program to support county growth management decision-making over the next twenty years.

After gathering information about the use of different growth management activities, the tools must be connected to the **theoretical framework** as explained in section 2. In terms of the relevance of these categories for growth management, the following conclusions can be drawn from the interviews:

Regulation seems to be the first choice for stakeholders when it comes to growth management. Participants widely referred to the effectiveness of regulative tools in growth management practice. For this reason, a large number of planning activities are geared to support this approach. However, there was consensus that regulation has its limits, and thus, must be accompanied by another set of growth management tools.

The **incentive-oriented** toolset is also deemed to be of some relevance. Incentives are important when it comes to supporting planning processes. They can greatly influence the decision-making of developers and citizens. Incentives were, however, also viewed critically since they bear the potential to undermine other regulative policies already in place.

Stakeholders believed the **design-oriented** approach will have growing importance. Though some indicated the approach to be rather effective, others pointed to design as a relevant tool for influencing people's perceptions about additional urban development. For this reason, design might be used as an incentive to support other growth management policies such as higher density.

Collaboration was deemed relevant when working with citizens, neighborhood groups, developers and other interest groups (e.g., environmental groups). However, it was only considered useful when the parties involved are not too far apart in their standpoints.

Stakeholders considered the **information-oriented approach**—particularly, educating citizens about development patterns or visioning processes—to be of growing relevance, though with the caveat that

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information tools must be handled with care because, although they can be highly persuasive, the information imparted often is politically influenced rather than impartial. GIS was widely applied on all planning levels, but the interviewees had different experiences with it. They found their access to GIS technical information often limited by planning departments' financial and time constraints. The research work of the Maryland-based National Center for Smart Growth and UC Berkeley should be observed in this regard. Landis et al. refer to computer models developed around GIS as "an extremely powerful tool for organizing information about the causes and impacts of growth and for developing future growth policies" (Landis et al. 2003).

In sum, the stakeholders widely agree that tools for growth management are available, but that **coordination** between different approaches is lacking. Some activities are even deemed inflexible when employed individually—as with the use of urban growth boundaries, for example. Tools are considered fairly ineffective when the line is drawn but no additional policies are applied. Thus, the combination of growth management activities used is important.

Most stakeholders advocate developing a **program-based approach**, which integrates all of the categories mentioned above. This broadly supports the idea of interdependence in planning practice and theory. However, participants also pointed to a lack of knowledge about which elements an interdependent approach should comprise. Since practitioners do not have the opportunity to further investigate—a fact they highlighted during the interviews—such information should be provided by research, based on thorough theoretical considerations.

4. Conclusions: On the Way to Interdependence in Growth Management

The argument of this paper has been that fragmented and competing discourses in planning theory have contributed to disconnection and, thus, confusion in planning practice. Viewed from a growth management perspective, planning practice in the San Francisco Bay Area is clearly fragmented. Stakeholders interviewed, while acknowledging the great need for growth management, indicated they are overwhelmed by the effort required to create a well-tailored set of activities. Interview participants also professed the importance of growth management strategies, linking the existing ones in an interdependent way, rather than bringing about new activities.

In the spirit of building a sense of interdependence in the San Francisco Bay Area, the following paragraphs further elaborate on these requirements.

Regional Interdependence

The regional approach to interdependence is based on the understanding that development is taking place at a scale larger than the single community. This approach has been emphasized in European growth management for many years.[17] Growth management on a regional scale has gained awareness in the US as well. Metcalf observes, "The Bay Area is fragmented into hundreds of district jurisdictions, most of which make unilateral land use and transportation decisions without reference to one another" (Metcalf, G. 2003). With respect to growth management in the US, Bollens states, "Fragmentation of growth management efforts encourages policymakers in one locality to ignore the harmful effects of their local decisions (such as environmental degradation, or increased traffic congestion) felt by individuals outside their borders" (Bollens, S. A. 1993).

Stakeholders widely agreed that growth management can cause negative developments for metropolitan regions when it is directed and applied only on the local level. The interviews reveal that state and regional governments should exert stronger influence in defining local planning practice.

This regional interdependence approach can only be achieved with the active involvement, and thus approval, of local jurisdictions. Hence, they must perceive a benefit to participation in regional growth management efforts. To address a fragmented realm of authorities, as in the San Francisco Bay Area, is not an easy endeavor. For regional programs to achieve success, trust among the stakeholders must be ensured, and the benefits and responsibilities of all participants in any regional exercise of collaboration must be clarified.[18]

Interdependence of Growth Management Activities

Growth management is, to a great extent, a complex and fragmented endeavor. If the requirements of dealing with fragmentation in

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[17] For suggestions concerning future oriented growth management in Germany, see Müller, B. (1999); also Einig, K. (1999); for a characterization of the Dutch approach to growth management, see Needham, B. and Faludi, A., 1999.

[18] The mode of regional cooperation in planning processes of various contexts, mainly under European planning conditions, was the focus of my research in years prior (Pallagst, 1995; 2000).

growth management are to be incorporated into an interdependent approach, several aspects must be considered. First, the fragmented set of growth management activities and the thorough experiences that exist in practice should be regarded as a good basis for interdependence. Moreover, a growth management framework is needed that does not react in response to short-term political requirements, but combines future-oriented visioning, pro-active policy making, thorough implementation and in-depth evaluation. A creative as well as—admittedly—complex mix of regulative tools, incentives, design features, collaborative exercises and information should be embedded in this interdependent path.

The selection process of new activities, which are constantly evolving in growth management, should be handled with care; techniques from the growth management 'store' should not be simply added, but customized to the specific planning requirements of the community, county or region. This is based on the 'store' metaphor in planning discussed in section 2, yet the advancement lies in the careful tailoring of activities, while taking their interdependence into consideration.

Interdependence between Stakeholders

According to Innes, growth management "presents a particularly challenging task of linking knowledge and action. It requires many kinds of knowledge—from facts and predictions about growth patterns and relationships among activities, to knowledge of interests and values of players and practical understandings of how things work. The knowledge must, moreover, help to change the behavior of a wide variety of players. The task is particularly problematic because the issues at stake—property rights, land use control, quality of life—have important symbolic and emotional meanings in the US" (Innes, J. 1991 b: 16).

Citizens' attitudes towards higher density and the quality of an urban lifestyle, oriented to transit and walkable destinations, is ambivalent. Dealing with these issues goes without saying. Planning practitioners must engage in pro-active approaches, which do not override citizens' or developers' concerns about the type, mode and location of development. Pendall's description of the situation is akin to that of a battlefield: "City councils and planning commissioners … must not bow to unreasonable pressures from neighbors to cut back project size or kill affordability, or to short-sighted attempts by builders to reduce the density of sites zoned for higher-density development" (Pendall, R. 1993). Today, however, planning practitioners can no longer afford to rely solely on what is perceived as expert knowledge, since their role no longer has the legitimacy to do so.

Interdependence among stakeholders also aims to bring together a broad range of people in a joint learning process to achieve consensus on the growth management activities to be applied. This can be difficult when the system is strongly based on a bottom-up approach, as is the case in the Bay Area. Carefully conducted visioning processes to simultaneously develop and promote growth management objectives could be a start for policy-making. Stakeholders should be aware, however, that when they create a vision, they are making choices which are likely to affect other sectors. Local jurisdictions cannot foresee development at the urban fringe and protect open space at the same time. Silberstein and Maser (2000) call this "trading freedoms."

A diverse spectrum of citizens should be involved in planning exercises at all stages to achieve broad consensus. Emphasis should be placed on engaging representatives of all relevant groups of the community, not only the "usual suspects" to sustain the requirements of social equity.

When determining who should be in charge of interdependence in growth management, planners' capability and expertise should be considered. Planners can assume a complex, dual role, not only acting as moderators in the planning process, but also applying their specific skills and knowledge. The latter should be shared actively with all other stakeholders in growth management. Open-mindedness and democracy are key to embracing a broad range of skills—from technical to social to knowledge of legitimacy and ethical values—in growth management programs. For planners to ably undertake such roles would certainly require modification in planning education.

Interdependence in Planning Theory

My analysis reveals that prior growth management discussion has strongly emphasized planning practice, yet with no thorough discussion of theoretical references. In planning theory, discourse needs to incorporate the growing complexity of planning practice challenges, in particular the interaction of different competing paradigms. This disconnection shows the reality of a postmodern era in planning. The simplicity of rationalist planning is gone. In current growth management, not only the rational side of planning is required, but a consideration of the whole 'store' of planning. The endeavor cannot be reactive, but rather should take on the challenges of complexity and define areas and modes in which planning practice should engage.

As we discussed earlier, planning practitioners have neither the time nor resources to take on this task. Then again, planning practice

needs input for a new interdependent approach that also integrates evaluations and adaptations to change. This evaluation should be a joint endeavor among researchers, local and regional jurisdictions, and a broad range of further stakeholders. Practice-oriented research should provide the necessary basis for developing measures and indicators, and display best-practice examples. With such a foundation, local authorities could apply indicators and measures consistent with particular situations and be able to implement evaluation and monitoring procedures in their planning routines. The performance could be measured related to the aims defined in a regional growth management policy, approved by local jurisdictions.

Planning theory has a history of discussing the legitimacy and changing demands of the role of the planner. This inspired me to take a closer look at the way these people carry out their daily work, and the way they intend to interact with other stakeholders in the San Francisco Bay Area. In this regard, I observed that none of them consider themselves technical experts, although many of them routinely apply the procedural toolset and expert skills. They struggle with growing complexity and bridging instrumental gaps, often because approaches and methods, generated by differing theories, have no common link.

Moreover, power struggles in the planning process, which pretends to be democratic, remain unsolved and reflect the reality of the postmodern era in planning. In this respect, some growth management promoters call for a regeneration of the planners' technical skills. Metcalf claims in this regard, "Perhaps we need to create cultural change that revalues technical expertise and invites experts to inform the debate, even if we do not empower them to be the ultimate decision makers" (Metcalf, D. 2003).

In my opinion, planning practice requires more than a technical style; it also needs a style that is pro-active, undertakes development challenges, and defines new modes of development. Planning theory should try to develop solutions or models for such an interdependent approach. These are highly sought by planning practitioners. Yet planning theory does not seem to be in a position to fulfill these demands. Instead of focusing on one school of thought, planning theory increasingly explore the linkages and overlapping of different theoretical movements, which offers more than mere classification. The need to handle the different paradigms in practice is there; however, planning practitioners are left to cope with them alone. Whether planning theory is ready to develop a toolset or 'store' useful for planning practice is unclear; more attempts in this regard, however, would certainly be helpful.

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