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INQUIRY AND DESIGN FOR SPATIAL PLANNING

Three approaches to planning research in late modern cities

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1. Three research paradigms in the spatial planning field

In the field of spatial planning research one can find a large variety of traditions and, lately, a mushrooming of approaches (see du Toit, Chapter 2.1, this volume), which interpret the crucial nexus between knowledge and action in different ways (see Friedmann’s seminal work, 1987). In this chapter, distinct features of three research paradigms, which are to some extent complementary – namely, empirical-analytical (or positivist), interactive and project-oriented – will be discussed and compared with particular reference to this nexus. The positivist approach to planning is presented by highlighting how research is intended as a preliminary means to provide decision making with scientific knowledge. The interactive paradigm is considered with reference to contemporary urban planning, recognizing an intrinsic political dimension of planning, which influences cognitive processes as well. A third perspective consists of critical approaches that in recent decades have emerged at the crossroads between urban policymaking and spatial design. Drawing on the relationships between these paradigms, planning research is considered as a particular interpretation of policy inquiry – namely, as an interactive arena for producing usable knowledge not only through traditional urban analysis but also through explorative projects. This position introduces new challenges for planning theory and research.

According to the first tradition, the understanding of urban and regional phenomena and of the impact of planning decisions and actions in space can be explored through multiple empirical-analytical techniques (Perloff 1957; Chapin 1965; Krueckeberg and Silvers 1974; Bracken 1981). Specialized studies in the planning field include heterogeneous references from human to natural sciences and to built environment sciences. Such studies may adopt traditional quantitative analyses or less formalized and qualitative methods (Quade and Miser 1985), which lead to apparently reliable descriptions and explanations of urban phenomena and forecasts of their impact in a given time and space frame.

This paradigm assumes as a deontological prerequisite that the observer’s viewpoint is independent from the phenomena to be investigated. Choosing a particular research perspective can require explanations, which in most cases remain as tacit assumptions, as if a dominant observer’s
point of view, or what in epistemology is called a “view from nowhere”, was possible (Nagel 1986). This is an ideological bias that has been criticized from many points of view, including non-dogmatic beacons of scientific rationality (Popper 1963, 1972; see also overall introduction). Nonetheless this perspective influenced rational and synoptic planning conceptions of the twentieth century. The result of research was supposed to be a non-falsified (or at any rate plausible) explanation of empirical data – that is, explanations that could not be refuted by available scientific observations or experiments (see also Chapter 2.6, this volume). These representations could then be used in the planning process in different ways: background knowledge for decision making, operative estimates of both social and physical phenomena and impact evaluation of decisions in given conditions. Research methods in this paradigm are devoted to strengthening technical knowledge, first regarding the interpretation of phenomena and secondly as inputs to decision making. This approach is the core of the rational decision-making model as developed in the planning field (Faludi 1973a), but it was used also in political economy analyses (Fainstein and Fainstein 1979; Harvey 1985) and radical planning approaches which presumed rigorous description, explanation and critique of “the lay of the land” (Grabow and Heskin 1973; Friedmann 1987; Sandercock 1998). These approaches were at the height of their success in the 1960s and 1970s, quickly becoming more and more questionable (Palermo 1992; see also overall introduction).

In the second paradigm, planning has the essential role of building shared interpretative and normative visions in fragmented and potentially conflictual contexts (Friedmann 1973; Innes 1995; Healey 1997). Here the main goal of planning research is not the objective representation of phenomena. The targets are the stakeholders’ core values, norms and preferences, their perception of problems and the possibility of building a shared vision through interactive and communicative processes. In this perspective the notions of “interactive” and “usable knowledge” are crucial (Lindblom and Cohen 1979; Lindblom 1990). “If you wish to know, learn how to [inter]act”: this pragmatic principle takes over the traditional notion of epistemic knowledge (von Foerster 1981). Here, the core element in planning research is an interaction system that evolves on the basis of interests, visions and actions of multiple actors in an arena which is partially structured by shared values and norms (Palermo 1992; Lanzara 1993; Crosta 1995, 1998). Harmonizing divergent interests and perspectives becomes a crucial challenge. The observer here cannot be independent from the planning field where his or her perception of the problems, the solutions and their implementation takes form.

A positivistic interpretation of the nexus between knowledge and action is not appropriate for this paradigm. In fact, it draws upon a pluralistic view of planning processes and a strategic and communicative notion of rationality (Habermas 1981). The principle validating planning knowledge is not scientific truth (or at least non-falsification), but its coherence and effectiveness in the context. Therefore, planning rationality belongs to the sphere of practical reason, requiring phronesis or prudential wisdom – that is, the ability to make the most appropriate decision in given conditions (Palermo 1992; Flyvbjerg 1992, 2004). This perspective emphasizes the social responsibility of planners. However, we must admit that some experiences in this paradigm have partially dodged the responsibility of wise choices in the last thirty years, mainly targeting the dominant social interests. The positions of “collaborative planning” and of “public dispute resolution” emphasized a conciliatory and therapeutic role of the planner as a mediator (Susskind and Cruikshank 1987; Healey 1997; Forester 1999, 2009). Consequently, a significant part of interactive planning distanced itself from a critical view of planning processes where severe conflicts cannot be simply resolved through cooperation. In this sense, the innovative potential of interactive approaches risks being weakened.
There is a third paradigm of planning research which is a significant variant of the first two and which derives from the assumption that the core mission of planning is to generate good projects that are appropriate to various scales and themes. Such a focus on the role of projects requires a post-positivist interpretation of planning research (according to critical developments of epistemological research; see Bloor 1976; Brown 1977). Designing, in this paradigm, means modifying local conditions according to a critical knowledge of the planning context and its potentials for change (Gregotti 1966, 1986, 2004). As opposed to the empirical-analytical paradigm, this means that the observer’s point of view matters. It is always selective and oriented by research questions that are surfacing from a critical dialogue with both the local society and the physical environment. It is not required to generate synoptic empirical analyses, which can result in incomplete surveys of little use. The topics to be investigated in planning research derive instead from a critical view on actual urban problems. This leads to a particular conception of planning inquiry: the local exploration of transformative hypotheses and preliminary projects as an effective way of producing new planning knowledge (De Carlo 1964, 1992; Schön 1983). Designing does not refer to the final stage of planning, but to project-oriented explorations. These can be considered as an innovative means for incrementally understanding the planning context, in terms both of actual phenomena and of their potential for transformation. Furthermore, these project-oriented explorations become a useful means for stakeholders and actors to understand the evolution of the planning and implementation process. The open question we will discuss in this chapter concerns if and how the third paradigm can be strengthened by and integrated with the best results of the previous two paradigms.

2. Emerging views and methods in planning research

A comparative framework of three distinct paradigms of planning research – empirical analytical research, interactive knowledge and project-oriented inquiry – helps to introduce the course of our discussion. The first belongs to the positivist tradition, and it provides important elements for understanding and measuring urban and regional phenomena, according to a modernist planning perspective. The recent evolution of new technologies discloses new operational opportunities, but the idea that rigorous empirical findings alone can generate appropriate planning choices has declined (Popper 1963, 1976). The influence of this paradigm seems limited, both in theoretical and methodological terms. Since the 1960s and 1970s these approaches started to lose ground with reference to economic and social inquiry (see, e.g., the crisis of urban studies in elite American schools: Wildavsky 1979; Rodwin 1981; see overall introduction). The same trend surfaced between the 1980s and 1990s in built environment studies in Europe and beyond (Palermo 1992). More interpretative, strategic and design-oriented views were nested in this positivist research tradition, though modifying its original perspective.

Since the 1980s, the notion of interactive knowledge emerged as a new paradigm, neither positivist nor technocratic, but pluralist, pragmatic, strategic and oriented to consensus building. Wildavsky noted that understanding the political context of planning practice needs more than studying statistics and maps. It requires interaction with most influential stakeholders, their interests, strategies and projects, using adequate (mainly qualitative) research methods (Wildavsky 1973, 1979). Moreover interactive knowledge seems crucial for understanding spatial features and transformations of complex socio-economic systems. Implementation research deepened these orientations in the planning field (since the seminal work of Barrett and Fudge 1981).

A project-oriented planning inquiry matured in the last twenty years, sometimes contrasting the aforementioned paradigms. The core idea is that principles and methods of urban governance
are not enough, nor are mere decision-making procedures, collaborative planning or public dispute resolution practices (Palermo and Ponzini 2010). One cannot reason about place making without referring to substantive questions of physical space and its potential transformation (Carmona et al. 2003; Healey 2010). Concrete spatial transformation projects are indispensable for grounding an interactive approach (Oosterlynck et al. 2011). In this sense, regional surveys and policy network analysis cannot stand alone without some reference to concrete situations—that is, physical and morphological explorations. Such surveys and analyses should be driven by the inquiry of potential transformation through strategic projects. This argument has been strongly developed by prominent Italian scholars (De Carlo 1964; Gregotti 1986; Secchi 1989). In this perspective, project-oriented explorations become an essential complement to interactive knowledge development.

In our view, the last two paradigms are the most useful conceptual grounding for contemporary planning research. This position will be illustrated by referring to well-known authors and experiments. Each of the following paragraphs is dedicated to one paradigm, following the same format. First, a set of international references will be given, focusing on the key epistemic and methodological problems. These questions will then be discussed in the light of emblematic examples, drawn from Italian planning experiences. Although these are not internationally well known, there have been several innovative contributions. Finally, evaluations and implications for planning research and practice will be discussed for each paradigm. The final paragraph will suggest future developments in planning research.

3. The decline of a positivist paradigm in spatial planning research

“Survey before planning”: this motto of Enlightenment culture has influenced planning theory at different times and in different geographical contexts. Probably the last prominent impulse in this direction was in the US in the mid-20th century, first for warfare needs and then during the season of the Great Society. The Chicago School, founded by Tugwell and Person and revived by Perloff in the early 1950s, can be considered as one of the most authoritative experiments. Surveying existing conditions in a comprehensive way was considered to be the preliminary basis for the planning process in order to avoid prejudices and inconsistent suppositions (Friedmann 1987). It was assumed that decision-making uncertainties and critical issues could be solved through empirical analysis. Since the 1960s, this approach declined in the US, also due to the weakening of the reformist attempt of the Great Society and the public programmes trying to improve living conditions in American cities. One can find partial revivals of this conception of planning as scientific decision making in northern Europe (Faludi 1973a, 1973b), while Italy and other Mediterranean countries had already experienced the limits of this paradigm. Regrettably, the rigorous but failed attempts of grounding planning decisions in synoptic and scientific knowledge that took place in Italy during the 1950s and 1960s are still largely unknown internationally (Palermo 2006; Palermo and Ponzini 2010).

Giovanni Astengo is the Italian planner who, more than any other, developed this programme, inspired by European rationalist planning and by acknowledged French traditions in geography and history (Astengo 1966). He put great effort into analysing and publicly debating planning choices, since he believed that the truth and solidity of knowledge could convince stakeholders and citizens of unavoidable decisions. In the mid-1950s he tested these principles in the comprehensive plan for the town of Assisi, in Umbria. This city had at the time an ancient and notable city centre, but a still rural and marginal economy. He studied the salient aspects of local activities in detail: surveying local agriculture and farming, and social and housing conditions,
assuming civic improvement as a mission for planning. Then he coupled these innovative surveys with a morphological and typological analysis of the built environment, in order to preserve the heritage of the town. Despite the technologies of that time, the final outcome was an accurate representation of the local economy, society and built environment of Assisi. On this basis, Astengo could combine priority projects on strategic sites, urban structure planning and land-use regulation (Astengo 1958). However, the planning process took about fifteen years, frustrating all expectations.

About ten years later, Astengo was the author of a new experiment in the city of Bergamo: a twenty-year development plan (Astengo 1970). He defined four large-scale strategic scenarios, subsequently analysing and quantifying the costs and benefits of each alternative. He led a systematic inquiry regarding the local economy, society and the built environment, trying to establish detailed forecasts in a twenty-year time-span regarding demographic, economic trends and potential settlement dynamics. Furthermore, he attempted to forecast the real estate values in given areas. The planning process was based on a rational model aimed at maximizing collective benefits. The plan for Bergamo designed in detailed terms the final outcome for the city to pursue over time. Planning regulation covered not only the main features of the traditional structure and land-use planning but also the technical, legal and operative implementation of each parcel of the city. In this sense, Astengo’s experiment in Bergamo was a sort of anticipation of decision making, attempting to integrate different analytical methods for describing, forecasting and regulating urban transformation, in an overambitious experiment.

These attempts did not really succeed. The main reasons for this were that most of this demanding urban and regional research was superfluous or ineffective for planning actual urban development. One can, however, derive a set of preliminary conclusions from here. Research for planning should select its topics according to relevant social interests and viewpoints. The attempts at accumulating comprehensive information in phases that are preliminary to the planning process are generally inconclusive, and they tend to generate costly databases without specific goals and clear meanings. Certainly in the last fifty years information technology has improved dramatically, reducing the costs of surveys. Nonetheless, this development does not overcome the radical crisis of meaning and purpose of cognitive processes that are not guided by specific research interests and questions.

In a frame of post-positivist philosophy, emphasizing the nexus between empirical research and the prerequisites of knowledge (Brown 1977), “objective” representations can be considered as contingent conventions among different actors, that sometimes are imposed by the most influential stakeholders. Consequently planners should be cautious with quantitative analysis, because quantifying urban phenomena does not always ensure more scientifically valid decision making. Planners who want to critically reappraise inherited views should question, first of all, their implicit cognitive frames of reference.

The accuracy of representations depends on focus and reasons of observation. Detailed and long-term forecasting can often be technically unfeasible or of little use. These research methods are often needed to arrive at some idea of the magnitude of the main urban and regional phenomena. Selecting the most appropriate form of representation for each phenomenon (even if they are only qualitative) is more rigorous than assuming that whatsoever quantitative forecast is available is better than none at all. It is the planners’ responsibility to select the final representation, and therefore these choices should be as transparent as possible and based on argumentation which is openly available.

These reasonable considerations are today shared in many academic circles. The ambitions of the scientific and rational planning paradigm have generally disappeared. Believing quantitative
measures are able to guide evaluation and decision making can in any case be an illusion since most influential stakeholders may not be willing to mediate their positions. One cannot expect to determine long-term and detailed choices on the sole basis of shared empirical knowledge.

4. Necessity and risks of interactive knowledge production

The assumption that planning knowledge is produced through interaction among relevant actors is confirmed by numerous planning experiences. However, only a partial shift from urban and regional analysis to public policy analysis occurred in planning research in the 1970s and 1980s (Wildavsky 1979). The attention to implementation and to the generation of “usable knowledge” (Lindblom and Cohen 1979) contributed to abandoning traditional synoptic models of rationality and moving towards bounded rationality and incrementalist models. The more radical description of planning processes in terms of the “garbage can model” contributed to subverting the idea that there is a linear link between problems and solutions and showed that goals adapt to means and opportunities pushing already established solutions to find adequate problems (Cohen, March and Olsen 1972; March 1988). One can see several links between these positions and the revival of pragmatic inquiry, as the collective process of a mutual adjustment of interests, visions and cognitive frames among different actors (Lindblom 1990). These positions were not welcomed by most traditional planning schools, as this was interpreted as a rough paradigmatic turn which denied the true mission and the scientific nature of the planning discipline.

One must recognize that interactive conceptions of planning have often underestimated the importance of the physical transformation of the urban environment (Punter and Carmona 1997), in some cases leading to a merely procedural conception of the planning process. Among the few significant attempts to overcome these limits, Bernardo Secchi tried to connect two fundamental research traditions in his experiments between the 1980s and 1990s: on the one hand technical representations of the built environment which are usable for land-use regulation and urban design, and, on the other, network analysis concerning stakeholders and decision makers involved in the planning process (Secchi 1989). In Secchi’s view, planning work cannot avoid a physical and morphological analysis of the urban structure, but at the same time it should investigate the main stakeholders and actors of the process. One development project cannot be evaluated only for its physical design characteristics; it must be evaluated also for the social distribution of the costs and benefits it induces. In this perspective designing the plan means not only shaping the final form of the city but also influencing the power structure and options for different social actors (Secchi 1991). The influential principles of post-positivist epistemology were integrated here with an interactive conception of planning knowledge. In this sense, planning inquiry becomes a collective design-oriented practice that requires social interaction and the setting of solvable problems (Lanzara 1985; Palermo 1992).

However, several experiments combining comprehensive land-use planning with societal listening and dialogue in the 1990s, such as the plans for Siena, Bergamo, Pesaro and Brescia (Di Biagi and Gabellini 1990; Secchi and Viganò 1998), were only partially successful. The shortcomings of these innovative experiences are due to multiple factors: insufficient consensus building, despite the interactive approach assumed; a normative and still rigid conception of the planning codes and norms; and enduring limits in the implementation process (Palermo 2006). Despite their limitations, these experiments showed that innovative research lines of inquiry can play a crucial role through problem setting, urban investigation and crafting possible solutions for planning problems. They also showed that the integration of interactive knowledge with more traditional planning and design is not an easy task.
In the international debate, there remains a divide between those working in the rational-procedural traditions of planning, or in the interactive knowledge approach, and those practising physical design (Palermo and Ponzini 2012). The risk of replicating this divide is evident in the recent revival of the academic study of strategic spatial planning (Salet and Faludi 2000; Healey 2004). The recent works of Secchi are an interesting exception: for example, the Gran Paris consultation and the long-term strategic plans produced for Antwerp and Brussels (VVAA 2009; Secchi and Viganò 2009, 2011; Secchi 2010). In these cases, Secchi proposes a different role for planners. Rather than having direct regulative responsibility, planners should concentrate on understanding and interacting with local society, inquiring into and visioning the emerging social and physical forms of contemporary cities, keeping environmental, morpho-typological, mobility and social equality issues at centre stage. However, the risk is that these visions only reset existing problems if they do not drive actual development processes. One can notice that, in recent years, similar criticisms were raised in more general terms with reference to the meaning and efficacy of strategic spatial planning (Allmendinger and Haughton 2009).

5. Inquiry and design in the planning process

The separation of process-oriented planning cultures from project-oriented approaches is, in our opinion, a great flaw in our disciplinary field. Due to mutual prejudices and some actual difficulties in developing fruitful conceptual relationships between urban design and planning, this nexus is heavily understudied today (Palermo and Ponzini 2010). Donald Schön, in his studies of the practices of different professionals, is one of the few intellectuals who developed original analogies between planning and architectural design (Schön 1983; Schön and Rein 1994). According to this perspective, a project-oriented approach seems required for learning from practice. The core competence of practitioners does not consist of a predefined know-how, whether substantive or procedural. Detecting an emerging problem in original, relevant and tractable forms, producing usable knowledge and fostering social communication, interaction and social learning are important abilities in the planning field. But this background can more significantly contribute to collective problem solving on the basis of tentative projects which can be shared with the involved actors. One cannot expect that substantive or procedural knowledge is completed before starting the planning process. Actions and interactions will improve the cognitive background since they generally induce further contextual understanding of strategic problems and of the relevance of spatial visions. This notion clearly derives from a pragmatic philosophical tradition, but it is also central in influential architectural studies (De Carlo 1992). In this sense urban design explorations can be a precious tool for improving planning knowledge, since several goals and guidelines can become more transparent and are easier to evaluate if concrete spatial development forms are investigated.

This position was anticipated and has been experimented with by important Italian architects and planners since the 1960s. Ludovico Quaroni showed that the logic of spatial planning inquiry does not correspond to a mere creative leap, an assumption that is widespread in planning schools. It is an abductive and recursive process, where a project-oriented vision is required in order to select the empirical investigations that will modify and strengthen it (Quaroni 1967). The formulation of one planning vision is based on the metaphorical translation of past ideas and experiences into one specific interactive context. Reflexivity-in-action helps planners and the public to envision a set of crucial issues. In this framework, selected empirical and analytical competences become meaningful and relevant for planning (Quaroni 1981; Schön 1983).
Giancarlo De Carlo experimented with a similar approach in remarkable architectural and urban-scale projects. In the well-known case of Urbino, where De Carlo acted as a consultant to the municipality (De Carlo 1966), traditional quantitative analysis played a marginal role. The main preoccupation of the research done for the comprehensive land-use plan was to measure the magnitude of selected urban phenomena, not to forecast the precise amount to be assumed as certainty. The actual need for planning was on the one hand creating a morphological and environmental framework for the transformation of the city, and, on the other, envisioning the potential for change in selected areas through explorative design (which could provide heuristic schemes helping one to understand urban problems and to build consensus regarding the key choices). Paying attention to the built environment did not imply any limitation in active listening and learning from the local population and city users. However, De Carlo combined technical disciplinary mastery of architectural, urban design and planning with genuine commitment to public participation. In his architectural and urban-scale projects, he cared about the coherence with the local context, sustainability requisites (at a time when this theme was not as widely acknowledged as it is today) and the opportunity of positive living experiences for the inhabitants (De Carlo 1964, 1992). His work shows that planning becomes elusive if it does not face the physical dimensions: designing physical transformations for the city implies a high social responsibility and becomes an opportunity for generating shared change.

This paradigm emphasizes the relationships between decision making and the social interests leading the cognitive processes that are related to planning. Pragmatic planning criteria tend to mix or substitute for an evaluation and forecasting based merely on quantitative data. The strategic and communicative dimensions of the process are important influences, but they become more relevant if referred to the emerging projects of given social actors, as these are technically described and designed, and publicly debated. In other words, building an explorative project is a specific means for potential collective agreement, according to communicative rationality prerequisites (Lanzara 1985).

The idea that explorative projects are crucial devices for planning research challenges linear conceptions of planning methods, which established a sequence of cognitive and evaluative steps. On the contrary, planning processes tend to imply recursive actions, where learning from explorative design can assume a crucial role in revising objectives and solutions (Ponzini and Palermo 2010). Consequently the old dilemma between inductive or deductive logic in planning research seems solved. In the third approach, the logic is abductive (Quaroni realized it in his work): anticipating and drafting relevant planning and design solutions first, and then critically testing their contextual coherence and spatial implications, thanks to empirical and interactive knowledge, and finally redrafting them accordingly. The technical work of designing is crucial for drafting concrete projects and for using them as exploratory devices in this spatial planning inquiry. This orientation is coherent with a pluralistic, pragmatic, strategic and interactive perspective throughout the processes of planning and implementation (Palermo 1992).

International research and methodological explorations which have some common traits with this paradigm have received only limited attention in mainstream planning debates, most likely because they are positioned at the crossroads between planning and design disciplines (Palermo and Ponzini 2012). There has, however, been pioneering work outside the Italian context. Examples include the analysis of the design dimension of planning (Punter and Carmona 1997), the relevance of morphological features in the implementation of regulations and procedures (Ben-Joseph 2005), the importance of urban design and development projects in shaping large-scale visions (Van den Broek 2011), and the relationship between planning tools and the design of actual urban development projects (Tiesdell and Adams 2011). Italian researchers, who had
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extensive international experience, already highlighted the importance of designing physical projects as a research method for exploring crucial planning issues (see Viganò 2010). Further research along these frontiers should not only highlight the links between the interactive and project-oriented paradigms, but also provide new evidence and stimulus for future planning debate and research practice.

6. Conclusions: inquiry and design in planning research

It is clear that in practice the three paradigms are not historically subsequent nor they are alternatives. The first represented the linear tradition of “knowledge before planning”. The second highlighted the political dimension of planning but tended to separate procedural knowledge from substantive and physical planning problems. This deficiency was addressed by project-oriented approaches which, in some cases, developed a pragmatic understanding of planning and implementation processes. In the current phase of crisis of the planning discipline, new perspectives can derive from a mutual legitimization of the aforementioned principles. Cultivating their synergetic relationships seems now more important than technically developing each of these approaches alone. In our view a new frontier for planning research should focus on interpretative and interactive knowledge development through a design-oriented inquiry. Renowned architects and planners have led significant research along these perspectives. Unfortunately these experiments are unlikely to develop well in cultural traditions which separate architectural from planning education and practice.

References


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