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Planning Theory: Toward an Integrative Planning Methodology

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by Franco ARCHIBUGI
Planning Studies Centre, Rome
University of Naples,
Post-graduate School of Public Administration, Prime Minister's Office, Italy
Tel:+39-6-71354200; Fax: +39-6-71359021
Email: francoarchibugi@tiscalinet.it
Web-page: <www.francoarchibugi.it>
Via Federico Cassitto 110, 00134, Rome, Italy

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Planning Theory:
Toward an Integrative Planning Methodology

1. The state of the art: progressive and regressive steps

For some decades now, planning practice in many countries has been the object of an ex-post analysis which has been wrought with many defects, above all from the point of view of implementation.

This has created a vast debate amongst teachers and operators over the causes of the evident failures of planning, and over the modalities to correct the approaches to planning on the part of planners, teachers and practitioners in order to improve the operational effectiveness of the carried out experiences. All this has taken the name of "planning theory."

Three years ago, on the occasion of an academic encounter between planning theorists, I expressed some perplexities over the shape taken by reflections on planning and its problems. In the paper prepared for that occasion,[1] I expressed my uneasiness concerning the content of the debates on that so-called planning theory. But at the same time, I also explained the reason why, for a substantial period, I personally refrained from entering into that debate because I felt the risk of being captured by a relatively useless rigmarole. In other words, of being dragged toward a dangerous meta-analysis which, if mistaken for the possible contents of planning theory, a) would make planning theory impertinent and unfit with respect to the clarity and effectiveness which have accompanied its birth as an academic discipline, and, b) would impair in addition the significance and the effectiveness of planning activities of which planning theory intended (and I think still intends) to be a methodological support.

Therefore in that paper I focused my attention on explaining the reasons behind the mistakes which (in my opinion) had emerged in planning theory since its noble and well motivated birth.[2] In addition, I synthetically indicated the substantive fields of a conceptual and cognitive integration which could and should become the specific and cultural terrain of a renovated planning theory.

Focusing on the criticism of present trends of the debate on planning theory, I did not perceive that my call for a more forceful integration of different approaches to planning - under the banner of a greater integration of the "procedural," as opposed to the "substantive," approach - was not well explained. I argued in my first paper, in other words, that the way in which the greater integration of method and substance could be modeled, (which I insisted was the proper and specific

[1] Specifically in the paper prepared for the Planning Theory Conference, organised by the School of Planning of the Oxford Brookes University, Oxford 2-4 April 1998 (Title: Planning Theory: Reconstruction or Requiem for Planning?).

[2] Even if the theoretical reflections on planning have remote roots in time (see an excursus of mine on this topic in a paper from 1992), I believe that among the first works inaugurating a systematic exploration of planning is that of Andreas Faludi, 1973a, accompanied by the well-known anthology of some previous works which were intended to serve as a background to it (Faludi, 1973b).

field of planning theory), had not been adequately probed.[3] At the same time, my earlier indecisiveness toward intervening in the debate of planning theory provides good proof of my consciousness of the limits of the previous contributions;[4] in fact I was not prepared (or was lacking in the required references to other works already prepared) to deal with the alternative planning theory approach with due extension and exemplification.

Now, I feel the need to integrate the previous paper with a new paper which would more closely examine the possible links between procedural and epistemological planning, and its different substantive features, by means of a unitary methodological scheme. This scheme is therefore the subject of this paper.[5]

2. A reference framework for planning theory: some essential postulates.

First of all, I need to delimit the terrain of planning theory in light of what I perceive as an excessive extension, and excessive meta-analysis of a philosophical-politological type, however useful and fecund these extensions may

[3] This consciousness and warning occurred to me in two ways: 1) from reading and hearing the paper of Luigi Mazza (1998) at the same Oxfordian Planning Conference, also directed toward modeling, in some way, an implementation system, and; 2) from comments and criticisms by Niraj Verma, Seymour Mandelbaum, and E. R. Alexander on my previous paper presented to this Conference. The critical comments by Verma, with which I fundamentally agree (and for which I am very grateful), suggested that the paper needed a section showing why the integration among the socio-economic forecasting and the other connections advanced by me were desirable. I believe that these connections, their description and their motivations, require much more than a section! They constitute, in fact, the *proper terrain of planning theory*. Still, this does not exempt me from sufficiently describing my claims, even if in a provisonal way, since neglecting to do so would risk having people not understand anything of what I am saying due to the absence of any kind of references or concrete examples. The comments of E. R. Alexander made me perceive the gravity of the absence of a systematic vision of the proper field of planning referred to here, and incited me to risk the defect of excessive schematism in the interest of not taking arguments for granted or for being well known! I hope that the corrections to my setting of my paper, more formal than substantial, will be met with satisfaction by Alexander, whose severe criticism I always find very stimulating, even when it is not shared. The comments of Mandelbaum have almost all been pertinent, and I have always appreciated his kind suggestions even on texts like mine that are so distant from his approach and style of writing. I am conscious of the difficulty of taking his viewpoint into account in the correct manner and of using his ideas in a way that conforms to their potential quality. I perceive that his conception of planning history pushes him to have a vision of planning theory very different from mine, and my effort to reconstruct an appropriate planning theory field and method go in a different direction than his. To all three colleagues, with whom I have related over some years of attempts to build a network of contacts for the advancement of theoretical discourse on planning and planning theory, I am grateful for the help given.

[4] This is referred to in note No. 35 of the previous paper, to a sort of treatise of general planning which I am carrying out in co-operation with other colleagues and which could be an important tool to better illustrate what I intend for the specific realm of the planning theory.

[5] Which constitutes a further, more developed, but still approximate step toward the awaited treatise on the foundations of the planning sciences.

be.[6] I apply these limits by means of the old scholastic method of establishing some "postulates," i.e. assertions not discussed but taken for granted (with good reason) as the basis of reasoning.

2.1. Logical postulates

Postulate No. 1 of a planning theory may be formulated as follows:

"Planning theory is essentially based on action-oriented analysis and doing, rather than on observation-oriented analysis and being."

By 'analysis' we mean any kind of reflection, any kind of reasoning, aimed at improving knowledge and making it more effective. In the case of planning theory, the knowledge we seek is that which is useful for action, for deciding what should or has be done, rather than for merely describing 'what is.'[7] This is the distinction commonly drawn between "normative analysis" and "positive analysis." The conventional approach of all operative sciences (those sciences, like planning, which involve decisions and actions and are connected in some way to practical activities) is to guide normative analysis through the application of knowledge gleaned from positive analysis.[8] It is presumed in these sciences that, in order not to violate "reality," normative analysis should be based *on* the positive analysis which is seen as a required premise for policy. The simple axiom is: "To know in order to act (or to decide) well." Knowledge from positive analysis is also considered to be the indispensable basis for the feasibility of action plans or programmes.

Nonetheless, action (or decision)- oriented analysis introduces a new (say, epistemological) element into consideration: the observation-oriented (or positive) analysis is itself impacted (even conditioned) by the action-oriented

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[6] To which we made reference in the previous paper (sec.3.2 and 3.3).

[7] This distinction, in philosophy, is as old as philosophy itself: it is the distinction between "to be" and "should be;" between the "truth," and the "good" or the "useful;" between "science" and "ethics;" or, in economics, between "science" and "art," theory and policy, political economy and economic policy. A modern treatment of the problem has been developed by some theorists of "operational research," among the best of which that by C. West Churchman (1971) and of P. B. Checkland (1981). At IIASA (August 1980) some operational research specialists debated, together with philosophers and social scientists, the "scientific" base itself of operational research, within which was reproduced the same ancient methodological and epistemological dilemma: between "positivist" and "normativist" approaches. On that occasion, a vast consensus settled on the need for operational research – which I consider from the methodological point of view to be very similar to that of strategic planning (and which I call a "programming" or "planological" approach) – to be freed from any illusion of being founded on a preventive positivist approach based on the findings (empirical or theoretical, it doesn't matter) of rules, constants, or – why not – laws of behaviour. (See the collection of papers from the cited meeting at IIASA in the volume edited by Rolfe Tomlinson and Istvan Kiss [1984], and – in especially – the introductory papers by Kindler and Kiss [1984], by Checkland [1984], and by Farkas [1984]; and finally the last paper of Rolfe Tomlinson [1984]).

[8] For a general vision of the distinction between "positive" and "normative" in the traditional sense, in the evolution of economic thinking, see Chapter 1 of the work by Hutchinson (1964), which has rightly become a classic on the subject.

(normative) analysis. This is a result of the well-known "problem solving" approach, in which the choice of variables (and the relations between variables) is conditioned by a feasibility analysis, which is itself based on hypothetical behaviours (since they refer to human and social behaviors) and which are never axiomatically "positive."[9] Now is not the time to delve deeper here into the character of the "normative" approach to planning, as the term is applied in the natural sciences.[10] It is sufficient to assert its preeminence as a postulate of planning theory for any type of analysis and for the evaluation of planning itself. Whilst in other traditional social sciences (political science, economics, etc.) it may be posited - however questionable the proposition may be - that there exists a positive analysis distinct and separate from a normative analysis, in planning (and in its "science") nothing is positive, and all is entirely "normative."[11] Also implicit is the presumption that the behavior of phenomena is entirely dependent on decisions or actions, and that it is therefore illogical to assume the opposite. Such illogical thinking is what Ragnar Frisch musingly called "half-logic."[12]

From the definition of Postulate No. 1 defined above, we may derive another, absolutely trivial postulate[13] (Postulate No. 1-plus) as follows:

"Planning theory presupposes an ex-ante analysis, and not an ex-post analysis."

This postulate, it seems to me, excludes from consideration many of the wanderings over past experience to which planning theory often abandons itself. These wanderings, always interesting and sometimes useful to know, nonetheless introduce the risk, not to be underestimated, of defining as data (during the decision process) facts which were surely non-existent in the ex-ante reality in which any decision process is applied. Such focus on past events, moreover, results in diminished capacity for the examination of more relevant and

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[9] This is the conclusion reached by the "rethinking" of the epistemological basis of operational research, of which we have spoken in note 7 with related citation of sources.

[10] For a deeper analysis of the question see, among others, a very beautiful essay by Gunnar Myrdal (1972) on "How scientific are the social sciences?"

[11] The fact that "normative" has been used in the past as a necessary complement of "positive" might produce a misunderstanding of my statement that in planning, all is entirely "normative." It may be more useful to change the word, and to state that all is "programmatic," i.e. nothing may be based on past experience as a source of "objective" rules or laws of behaviour. On the contrary, all should be based on decisions or actions looking toward the future, including, obviously, the constraints always operating in the future, as a combination of the preferences – more or less negotiated - among different alternatives of decisional packages. (I owe to this specification the inducement of some objections by E.R. Alexander).

[12] He wittily defined this half-logic as follows: "It is as if the policy maker would say to the economic expert: 'Now you, expert, try to guess what I am going to do, and make your estimate accordingly. On the basis of the factual information I thus receive I will then decide what to do.' The shift from the on-looker viewpoint to the decision viewpoint must be founded on a much more coherent form of logic. It must be based on a *decision model*, i.e. a model where the possible decisions are built in *explicitly* as essential variables . . . [It is time to move] away from this sort of half-logic and begins to approach the programming problem on a more rational basis." (Frisch, 1976 p.91-92).(Frisch, 1976 p.91-92).

[13] This postulate is so trivial that in my classroom we call it the "stupid" postulate! But, sometimes, even teachers forget and neglect stupidity!

prevalent existing data, i.e. those data inherent to the set of decisions involved and pertaining to *new* problems which arise and need to be solved. Never has it been more dangerous, as it is in the field of planning, to look at the past!

Postulate No. 2 of planning theory, I think, may be formulated as follows:

"The action-oriented analysis is essentially oriented toward optimisation".

This postulate derives directly from the first. If the analysis is ex-ante action-oriented, and not oriented toward the analysis of things observed more or less ex-post, then any constraints on the decisional objectives disappear. These objectives cannot be anything other than achieving the best possible result (given the constraints) with regard to the objectives.[14]

The fact that in the reality (ex-post) this optimisation is not obtained, or is obtained in a limited way, does not have any relevance for the true planning theorist. Outcome may concern the *temporis acti* analysis, but certainly not the *temporis agendi* analysis. It may interest the onlooker or, say, the historian of human behavior, but not someone who must prepare a plan or help suggest planning decisions.

This postulate should cut off - *as falling outside the terrain of planning theory* - all endless discourses on the "bounded rationality" which so widely occupy the political science scene of our time. Even if we were to admit - although I personally would be resistant to concede it[15] - that a "positive" approach could be developed in the human and social sciences - i.e. that an ex-post scientific analysis of behaviours and the determination of regular behaviours (determined, according to some people, directly from the "theory" i.e. the innate "rationality" of the behaviours) could be free from logical error - all this would have nothing to do with planning theory, as a consequence of the two postulates described above. It may be relevant for the (positivist) "sciences of being" (I repeat, admitting but not conceding, that as such they could be the sciences concerning human and social action), but not for the "science of the action" (or praxeology)[16] which planning is.

What meaning could a "bounded" rationality have for the planner or the planning theorist? In the moment when he or she should "decide," can we

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[14] The word "optimisation" expresses in all languages that concept of maximum result, subject to the conditions, that is the foundation of rationality, and that may be also expressed by the words effectiveness and/or efficiency. It is a question, therefore, of a relation that has had and still has many nomenclatures (all equivalent, for our purposes) among them are: aim/mean; goal/constraint; result/effort; product/factor; output/input; benefit/cost; performance/resources; and so on.

[15] It does not seem legitimate to me to raise a doubt of this sort here in the seat of planning theory. Instead, this should be raised in the seat of general political science oriented toward a "positivistic" approach. In any event, see one of my papers on the "Programming Approach," concerning the contribution of Ragnar Frisch, Jan Tinbergen and Wassili Leontief on this matter (Archibugi, 1999); and the already cited essay by Gunnar Myrdal (1972).

[16] I state that the roots of such an assertion can be found in most of "American" theory of society: overall in Talcott Parson (1951); but also in the American philosophy of knowledge (or pragmatism): overall in Dewey (1944) or in C.L. Lewis (1946). The foundations of Praxeology – as we know - were defined later: Kotarbinski (1965) and Kaufmann (1968).

imagine our planner saying, "The best solution is that one: but I am satisfied with, or I prefer this other one which is not the best. . . . Why? Don't ask me, because I don't know!"[17] In fact, if the planner or decision-maker could know why, he or she would have the duty of including the reason for the choice in the list of objectives he or she were pursuing, and in the trade-offs (i.e. "optimisation") between such objectives that any decision inevitably involves.

We may admit, in practice, that the decision-maker may be unconsciously unconscious of her or his preferences; but whether he could be consciously unconscious is a question which concerns psychiatry (even more than psychology)!

What relevance could a "bounded" rationality have for the planner who exists just to make conscious and explicit the motivations and goals of the decision makers or the planners themselves? Indeed, how exactly a bounded rationality could concern the planning theorist, who orders the process by means of delineating the best or the most effective decisional system for the planner, remains an academic mystery!

According to the logic of Postulate No. 2, all discussion of the concept of "rationality" - Cartesian or non-Cartesian, bounded or non-bounded - falls outside the terrain of planning theory. Such discussion pertains directly to the fields of philosophy and epistemology (for which I do not believe planners are especially well equipped).

2.2Field or delimitation postulate

The first two postulates enunciated above pertain to all sorts of planning (from the more universal to the more specific). Since planning theory usually refers to the sort of planning which *grosso modo* is ranged under the common name of public (or communitarian, or collective) planning, the following postulate is useful for freeing the terrain of many equivocal and diverting discourses:

Postulate No. 3:

"The subject of (public, communitarian, collective, etc.) planning is an (officially legitimate) collective entity."

Or, expressed differently:

"The decision maker of public planning is an institution."

To this Postulate No. 3, specific to the field of public planning, we may append a number of corollaries (or propositions of immediate deduction) which should be recalled and kept in mind during our search for a specific field of planning theory:

1. The "planner" is, by logical extension, that institution (i.e. that public entity)

[17] And it would be even more exhilarating if he or she states: "….Why? Because Prof. Simon says that normally the decision-makers, like me, are satisfying and not optimising…."

which is officially recognized and legitimated.[18]

2. The expert-consultant, whom we usually call the "planner," himself constitutes the proxy of the institution.[19]

3. The "planning society" is a system of institutions.[20]

4. Since the planning society is a system of institutions, the problem of bridging the gap between individual and abstract social preferences becomes irrelevant.[21] The sole bridging mechanism that planning theory can and should recognize is that of the "political system." Instead of speaking about "social preferences," it is more suitable and appropriate to speak of "political preferences."

5. The planning expert-consultant is committed to "rationalising" (i.e. analyzing the consistency of) and coordinating the decisions of the institutions for which he is working, by means of the formulation of "plans" which are the outcome, precisely, of interactions or co-operative processes between policy-makers and analyst-planners.

6. As the number of political institutions at all levels responsible for planning activity increases, so increases the number of institutions involved in the planning process. The task of the expert-planner becomes the formulation of draft-plans for the decision-makers (in the context of the above-stated interactive or co-operative processes) which take into account the appropriate levels of decision (or of decisional consistency among these levels).

7. The expert-planner, consequently, must be able to rationalise and resolve possible conflicts between different institutions and compensate for inconsistencies or incongruities between different levels of decisional competency. The greater the number of institutions or decisional levels in a given

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[18] By official legitimisation, we do not refer to the “stamped paper” or the “red tape,” but to the existence of official title to represent the will and the interest of societal groups and categories of citizens.

[19] In this way, as the advocate of any person (individual or juridical), he or she identifies him or herself with the interests of that institution as such, by associative willingness or constitutional system.

[20] Let me recall a definition of the planning society by an [USA] National Committee on National Growth Policy Processes created jointly by the American President and Congress in 1976: “The Committee does not advocate a *planned* society. We urge that America become a *planning* society. In the long run, we believe that intelligent planning will actually reduce burdensome governmental intervention in matters affecting the private sector. Much governmental interference in the economy now consists of *ad hoc* reactions to situations which have been rendered acute because they were ignored until they became intolerable. With the benefits of foresight, the Committee expects that any necessary government intervention will be more readily considered, more timely, and less heavy-handed . . . This need not be a complicated process. Americans can resolve that any process we create will be compatible with freedom, and will preserve, to the greatest extent possible, the widely dispersed initiative and creativity we value so highly. The oppressively technocratic and centralised atmosphere that has surrounded the image of planning can and should be put behind us.” (USA-Advisory Committee on National Growth Policy Processes*, Forging America's Future: Strategies for National Growth & Development*, *Report*, GPO, 1977, p. 11-12). See also the final chapter, The Planning Society, with which Faludi closes his well-known book, *Planning Theory*, 1973.

[21] It has been assumed in the old “welfare economics” (by Pigou and followers) before the “impossibility theorem” (by Arrow and the “social choice school”). For a master treatment of the issue, see Frisch (1976) and Johansen (1977).

society, the greater the need for planning (which is the rationalisation and optimisation of unlike and often opposed preferences between decision-makers).[22]

In sum, the postulates (and especially their corollaries which have particular resonance for the planning theorist) should be considered as such and accepted as the basis of planning theory. To ensure that planning theorists do not get dragged into debates beyond their scientific competence, and in order to guarantee that they do not stray from the research and identifications which are their own proper field of study and consultancy, these postulates should therefore be taken for granted and exempted from further debate.

Therefore, in what direction should planning theorists focus their visual scope, using as a starting point the three postulates stated above? I will try to reconstruct here the essential lines of a planning theory in order to not leave the positive aspect o that theory completely in the dark. However, I choose to outline the contours and physiognomy of such a theory in a way which is intentionally broad but also includes a provisional attempt at exemplification.

With the help of these basic postulates and corollaries - which allow the theorist to free himself from a number of extraneous and diverting discourses of a polity-concerning type - I will sketch the outlines of a true planning theory, comprising both its appropriate process and contents. For the moment, I will sketch a summary and essential model of this realm, proposing, in time, to describe its features piece by piece (and hopefully in cooperation with other colleagues).

3. The planning process

The definition, study, and analysis of the planning process can, in my opinion, be considered the proper task, realm, and field of planning theory. It is, moreover, the area in which we have achieved the most progress (before many planning theorists became diverted by questions beyond the theory's proper boundaries).[23]

Faludi, whom I consider the first complete "systematiser" of planning theory, dedicated the essential and almost exclusive part of his work to the planning process and its various issues. In short, planning process analysis is a recognized and well-cultivated field of planning theory.

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[22] This corollary goes against a popular opinion that planning is possible when institutional and political freedoms are scarce and the decisional levels are few. From the corollary, instead, we derive that it is precisely the natural clashing of interests and inconsistency coming from the institutional pluralism, (as from, in general, the decisional decentralisation which prevails in the so called "market") that requires a larger co-ordination and rationalisation of decisions, i.e. planning.

[23] This is also the field where planning theory, before being configured as an autonomous field of research (say, with Faludi), had many scholars working from related disciplines (for instance, system analysis and policy sciences) who could be considered the forerunners of planning theory. And it is not by chance that Faludi himself, as many others before and after him, - e.g. Chadwick, McLoughlin, Catanese, Cooke, Peter Hall, etc. - all have used schemes (more or less didactic) already proposed by some of these forerunners. (On the various disciplinary components confluent into planning theory and into new discipline which I would call "planology," see other writings of mine (1992, 1996, 1998).

Personally, I would have very little to add to the efforts performed, except to recommend absorbing from the best schemes laid out, the sharp distinction between the various phases of planning, i.e. between the "selection phase" and the "implementation phase," within the planning process as a whole.[24] I have followed this advice myself in my textbook on the *Principles of Regional Planning* (1979) from which I here take (with some minor adaptations) the following very simplified scheme of the planning process (Fig. 1). I consider it particularly useful for its clear depiction of the different levels and phases of the planning process which is so essential to the correct development of current discourses on planning.

The scheme in Fig. 1 lays out the basic moments and subjects of planning according to two main functions: the *selection* or choice of a plan, and the *implementation* of a plan. Such a simplified scheme, of course, requires adaptation for its application to real circumstances. Indeed, its working system is applied at every stage or level of planning (since there is almost always a superior and inferior level at any stage which can sensibly reshape the process as a whole). It is necessary to locate the process within its practical context and implement it with respect to the relevant exogenous circumstances, such as the actual level of decision, and the way the political system can modify or alter the nature of either its decision-makers, or the participants in the planning process as negotiators (stake holders), or the final beneficiaries or "target people," or the intermediary operators, and so on.

4. The planning system

Where planning theory has achieved only minor results compared with might have been accomplished, is in the substantive side of analysis. By "substantive," I mean especially that part of analysis which is concerned with a deeper probing of the links and the integrative aspects between the different types and scales of planning. If the different planning applications, or plans (or planning typologies) - as welfare, development, housing, health, or accessibility as "types," and suburban, regional, national, or international as "scales" - represent the substantive side of planning, then their functional interrelationships, their interdependence, is what we mean by the substantive side of planning theory. This side of the theory, unfortunately, - as asserted repeatedly above - has been too often neglected by planning theorists, to the detriment of the implementability and feasibility of the plans.

Such damage derives, in short, from the fact that the evaluation and implementation of the "optimalities" of any type of individual plan decision and choices, (and the capacity to apply these decision and choices), depends heavily upon the decisions, choices, and capacity of other substantive plans. As a result, a systematic and organic co-ordination of the planning process of an individual plan with the planning process of other plans in the operational environment constitutes an essential factor and condition in the success or failure of any

[24] This distinction between the selection and implementation phases was recommended insistently and continually by Frisch, one of the forerunners of planning theory, in his late writings on the methodology of economic planning, republished posthumously in 1975. For comments on this distinction, see also Johansen (1977) and Archibugi (1999).

planning.

Despite ample evidence of this interdependence, relations between the different substantive plans remain very weak. Attempts at ordering these relationships into a common "planning system" (which could have been the proper, most important field of a well-intended planning theory), remain even more scarce.

I will here try to model this "planning system" in order to indicate the type of analysis and reflection I consider the proper field and realm of planning theory (like that examined above of the planning as process), and upon which, in my opinion, we should found its "reconstruction."

Even here, of course, the "modelisation" or "schemitisation" is oversimplified. The single items or "entries" used to articulate the different dimensions are quite tentative and provisional - they serve as indications and impressionistic suggestions for which further work on the reconstruction of planning theory should be focused.

What I find necessary to insist - from here on - is that a clear distinction be drawn between the selection stage and the implementation stage, even in the modeling of a planning system. I consider this distinction so essential, in fact, that I suggest two parallel schemes for modeling the planning systems: one for each function and stage. As will be seen, however, I do not exclude nor even underestimate the importance of defining a tight and actual interdependence between the two schemes.

To be clear, the planning system, which we begin to define and describe, has nothing to do with the “positive” analysis of society, or societal analysis, of which we have many examples (Parsons,[25] Isard,[26] and many others), even if there is some similarity between them. In short, the planning system is not concerned with the existing "social structure" as such; it is, rather, concerned with society's management and planning.[27]

The planning system is a complex system.[28] In other words, it is a system which concerns the entire social life and includes all the possible decision-makers which act within it. It is a *holistic* system. As such, it must be designed according to a model which takes into account all the possible fields of decision-making and all decision-makers who play a role in social life. It has a territorial dimension which is "global" in the literary sense: it extends to the planetary scale.

The planning system must be "structured" through a conglomerating taxonomy, evidently multi-dimensional, which is commensurate with its complexity. Multi-dimensionality, while fitting with the complexity of the system, is unfortunately at odds with the dictates of managerial practicality, and with the need for rapid identification and comprehension of the interrelationships on the part of operators, planners, or decision-makers. This is why a taxonomy which is limited in dimensions and in the extension of items is more suitable for our needs. Nonetheless, the dimensions, extension and nomenclature (i.e. systematic naming) of the taxonomy are quite arbitrary, and it would be advantageous for

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[25] The “social system” by Parsons (1937).

[26] The “general theory” by Isard (1969).

[27] This is the reason why planning theory does not need to be flanked by a theory of society (as argued by Dyckman in the quotation included, and contested by me, in my previous cited paper to the Oxford conference on the future of planning theory).

[28] Truly this seems a tautology; any system is complex by definition.

them to become the field of intense and positive study by planning theory. It would also be highly useful if, after a period of sufficient critical debate, planning theorists could agree upon a common, conventional taxonomy[29] in order to render it more “user-friendly” within a systematic framework of the interdependencies and in order to facilitate faster communication and comprehension within the planners' scientific and professional communities.

In order to facilitate the understanding of what I intend by a planning system, I will design a model of only three-dimensions which I believe is sufficient to include a holistic taxonomy adequately explaining the main planning features. This system, as I stated, will be divided into two models representing the two basic functions and stages of the planning process: the selection stage and the implementation stage. In addition, the system will be split according to temporal dynamics.

Needless to say, it would be possible to merge the two systems (according to the process and the temporal dynamics) into a single multi-dimensional model expressed mathematically by a hypermatrix. Such an exercise, however, might jeopardise or diminish something of the model's explanatory potential without offering increased clarity in return.[30]

4.1 The planning selection system

As identified above, the planning selection is one of the most important stages of the planning process (see Fig. 1). It serves as the basis of the "strategic" nature of planning, the determination of its objectives, its substantive features and issues. In the selection stage, we decide what we must do, and at what the plan is aimed.

We can list three basic dimensions of the selective (or strategic, or decisional) model:

1. Aims of Utility or Welfare (Final Goals): [Dimension I];
2. Policies or Means (Intermediary Goals): [Dimension II];
3. Territorial Distribution (Spatial Goals): [Dimension III].

Dimension I, pertaining to aims of utility or welfare, may be articulated

[29] How useful it would be if some professional and academic associations, after adequate debate, would go so far as to agree on such a taxonomy, and related glossary!

[30] Except for the case, unlikely at the moment, of a usage in quantitative versions (with related mathematical modeling) for which, at the present, I can’t see the utility. Among the most interesting modelisations (inevitably of a “holistic” character) which I met in the planning literature is that well-known work by D.L. Foley (1964), included in the effort of M.M. Webber (1964) to explore the a-spatial aspects of the urban structure (and already used in my handbook on regional planning, 1979). I have the impression that the roots of the Webber/Foley model, strongly anchored in urban studies, have also clearly constrained it, a well as the other important quantitative spatial modelisations of the literature: for instance those of Britton Harris (1965a, 1965b), J.W. Forrester (1969), W.L.C. Wheaton (1967, 1974), A.G. Wilson (1968, 1974). In their entirety, these modelisations were – in spite of their practical ends – limited by a “positivist” and “interpretative” approach and therefore, in my opinion , they were and are not so operational as the model outlined here (in the hope, however, that it could be further articulated and qualified).

through a taxonomy which corresponds to a satisfactory (and conceivably exhaustive) classification of all factors of social or public welfare. Let's imagine such a list as follows:

a. basic needs
b. health
c. public safety and protection
d. housing and physical environment
e. social integration and social defense
f. learning and education
g. recreation and cultural needs
h. accessibility
i. political participation, and so on.

Dimension II, pertaining to policies and means, classifies the various modalities which may be employed to achieve the welfare goals. Such a classification must above all take account of the economic and financial constraints for the achievements of these aims. The articulation of this dimension, therefore, may follow the set of policies which aim at achieving the social and public welfare goals expressed in the first dimension:

a. policy for basic needs assistance
b. incomes policies
c. policy of services
d. health policy
e. employment policies
f. transport policies
g. school policies, and so on.

Finally, Dimension III of the selection planning system pertains to the territorial scale and consequent spatial goals of the plan. In public planning, various territorial scales may be envisioned within which it is reasonable to measure welfare status, goals, and the effectiveness of policies directed toward particular objectives. Such a list of territorial scales might include:

a. the urban community[31]
b. the national community[32]

[31] Personally, I do not believe that the welfare goals can be defined, nor can policy effectiveness be measured at a scale inferior to the "urban system" (whose minimum threshold can be not inferior - at the present concept and requirement of quality of life - to 500,000 citizens, at least in the advanced western countries). See also the findings of a European multi-national research directed by me and performed by the European Commission (Archibugi, forthcoming). Those who think differently could introduce sub-urban scales.

[32] The sub-national regional scale is largely present in the mind of planners because there exists, in many countries, an intermediary territorial authority between the national country and the urban community. However, in my opinion these scales would be improper for many measures of social or public welfare (too big for a proper urban public welfare and too small for a proper national public welfare) and consequently, also improper for the implementation of adequate policies. Between the national community and the urban

c. supranational community (if existing)
d. the planetary cosmopolitan community.

All this is expressed in Fig. 2.

As stated above, Dimension I is where analyses are made concerning the consistency between, and compatibility of, the various goals in a community of reference. In Dimension II, the analysis compares the degree of consistency and compatibility between the goals and the means at society's disposal for achieving them. More importantly, this dimension also analyzes the economic and financial feasibility of the various means available. To Dimension III belongs the analysis of the consistency and compatibility of the reference community's plan with the plans of "other" communities in the context, including those of a superior level or scale of territorial representation. (To the last dimension belongs any kinds of issues such as the subsidiarity principle, or, more generally, federalism issues).

The relationship between the three dimensions is the means by which we check and examine the consistency and compatibility between all plans, all related decisions, and between plans and their general decisional context or environment.

4.2 The planning implementation system

As identified above, implementation is one of the two essential stages of planning (see Fig. 1). It is upon this stage that we base the operational articulation of planning, its control of effectiveness and ongoing evaluation, and its political and procedural features and issues.

We decide in the implementation stage how, or by which way, we implement what we have decided to do in the selection stage.

The logical priority of the selection problem over the implementation problem is undeniable. It is appropriate that we act only when we have a reason for our action. Equally undeniable, however, is the fact that we derive from our actions (as feedback) new perspectives on our preferences.[33]

As asserted in Postulate No. 3, the subject of planning in the field of public planning is the institution, and the implementation problem includes not only how to do something, but also *who will do what*. Any modeling of the implementation system must take this into account. A successful plan will require a degree of effective co-ordination between the various planning operators, i.e. between the various institutions.

As in the case of the planning selection system (Fig. 2), we can describe an operational model or scheme of the implementation system in three basic

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community (in the minimum threshold concept referred to above), I do not find sufficient reasons for a meaningful measurement of the quality of life and the welfare targets; the eventually existing administrative or political entities should be reduced to the urban system or scale concept. If some peculiar, particularly impacting ethno-cultural motivations manifest themselves on a regional scale, people should assimilate this case to the national community case. (Archibugi, 'The Ecological City, etc.', 1997).

[33] Wider references to this kind of argument can be found in the interesting collection of papers on "social action" edited by Seebass and Tuomela (1985).

dimensions (see Fig. 3). Such dimensions shadow the decisional or strategic model as follows:

1. The policy institutions (governmental institutions and agencies by type of service
and/or responsibility): [Dimension I];
2. The societal or civil institutions (non-governmental agencies including enterprises, households, and non-profit organizations): [Dimension II];
3. The territorial institutions (agencies, governmental and non-governmental, by territorial jurisdiction): [Dimension III].

Dimension I, that of policy institutions, includes all governmental agencies which are in some way involved in the management of the goals of the decisional model and is, so far as is possible, organised in conformity with Dimension I of the selection model. The taxonomy of this dimension corresponds to the organizational structure of governments (for basic needs, for instance, it would be the welfare agency or ministry; for health, the health policy agency; for accessibility, the transport agency; and so on).

Dimension II, concerning societal or civil institutions, includes all non-governmental institutions whose decisions and actions have a non-negligible impact on the implementation of the goals and policies of the strategic model. These may be ranged within the following sub-categories:

a. the enterprise system, which operates in the for-profit market and has an overabundance of effects (both positive and negative) on the plans, objectives, and policies of the strategic model;
b. the households, the final institution targeted by the majority of plan objectives, which may constitute - at least in the selection of objectives - an important partner of governmental agencies during the formulation of objectives;
c. the "third sector" or "non-profit" organizations, which are agencies and operators particularly interested in the implementation of plans and often act as powerful allies of the government in this regard.

Dimension III, finally, concerning the territorial scales and consequent spatial objectives indicated by the territorial dimension of the strategic model, includes all agencies, governmental and non-governmental, which operate within a territorial jurisdiction. Among this list are:

a. the urban agencies;[34]
b. the national agencies;
c. the supranational agencies;
d. the world agencies.

From this list of the dimensions and their taxonomies we derive the actual model of the implementation system (Fig. No. 3).

[34] In every country the spatial and territorial agencies are, in fact (as said above), for more than only one level and scale (the urban scale, more specifically). This means that the objectives identified in the plans, according to the essential territorial articulation of the strategic model, will be related to agencies and authorities of more than one level (from the local to the national).

4.3 Functional and time interdependencies

The two schemes proposed here provide a framework for, and are intended to stimulate the analysis of, all factors with respect to their consistency and compatibility in: 1) the selection planning process; and 2) the implementation planning process.

In the case of the selection (or formulation, or preparation) process of planning, any preference function (with or without negotiations and agreements between interested parties or stake holders) which is without a contextual framework and devoid of a compatibility analysis of the relevant factors, risks returning a "sub-optimal" or precarious decision. In short, such a function is directed towards a very partial and ephemeral optimality.

In the case of the implementation (or management) process of planning, any action undertaken independently by an institution without regard for actions simultaneously undertaken by other institutions in the same environment, is in danger of neutralizing or annulling the plan, and thus constituting a considerable waste of energy and resources. (This is the true unfortunate "story" of the planning of several countries in the past decades).

Co-ordination, a task imperative to any type of multi-dimensional management, has the propitious effect of encouraging recognition and evaluation of all factors at stake. Even if should it fail in actual and operational effectiveness, the reference to an implementation framework, as conceived above, would still be useful in shedding light on possible conflicts and could ensure easier decision-making for the operators; it may, in fact, facilitate what could be called "spontaneous" planning.[35]

In order to make this co-ordination between institutions effective, however, it is necessary that the content of decisions and choices be co-ordinated, well-known, and identified within a broad framework. If this is not done, co-ordination operates in darkness, as an end in itself, sterile and perhaps even dangerous.

It is, therefore, indispensable to operate a permanent comparison between the two systems, separately conceived, of selection and implementation (see Fig. 4). Through this comparison, we can position people to control and monitor the validity of both the strategic or selective planning process, and the implementation and organisational planning process. The ability to move with conscious understanding of cause and effect from one system to another, from one plan to another, or from one scale to another, would immeasurably increase the quality of the planning system, so much so that the difficulty of conceiving and implementing a plan, any type of plan, without such means of comparison would become evident and obvious (as, in fact, it is in our current practice).[36]

Given this vision and perspective, we may ask ourselves what sense there is in many of the current discourses *on* planning - those, for instance, which compare or prefer a "blue-print" method to an "incrementalist" method; a

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[35] Is this “spontaneous planning” not similar to the idea of a “planning society” which a joint committee (USA Congress and President) outlined in the 1977 report cited above? (US Advisory Committee on National Growth Policy Processes, 1977).

[36] In effect this occurs implicitly, without the assurance of an explicit and systematic analysis and without a “check list” of all the interdependencies in play. *Planning theory, which we argue for here, consists in putting in evidence, first of all, this checklist.*

"generalist" (or comprehensive) method to a "case-by-case" method; and so on - which are all questions discussed and “marketed” under the title of "planning theory," but which, in reality, derive their existence precisely from the absence of an adequate and appropriate planning theory! Even more distressing - from this vision and perspective - is the practice of bringing forward as evidence actual cases or life stories (of plans) in support of this or that methodological argument. Who doubts that anecdotal evidence might be found to support any particular thesis or method?

Finally, in both planning systems (selection and implementation), it is useful to compare the diachronic states (see Fig. 5). Any system is subject to variations over time which require evaluation in order to avoid - when, as in our case, the system is used as a diachronic or tassonomic tool of evaluation - inter-temporal comparisons based on parameters which have themselves changed with time. (This is a very common cognitive mistake which often recurs in the collecting of current data).

5. Conclusions

In conclusion, this “sweeping” picture has sought to provide - as stated in the beginning - only a rapid sketch of what the business of planning theory, in order to be a *true* planning theory, should be. This sketch supports and explains my certain uneasiness, developed in another paper already cited, about the current trends in planning theory as a whole.

The planning process and system outlined in this paper should be decompressed from its current compactness by a critical analysis. The hypermatrix which springs from the system schemes should be examined cell by cell in order to increase our understanding of the interdependencies which are located within.

In this manner, planning theory can make important cognitive advances and provide constructive (rather than destructive) guidance to planning itself.

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Fig.1

The Planning Process Model

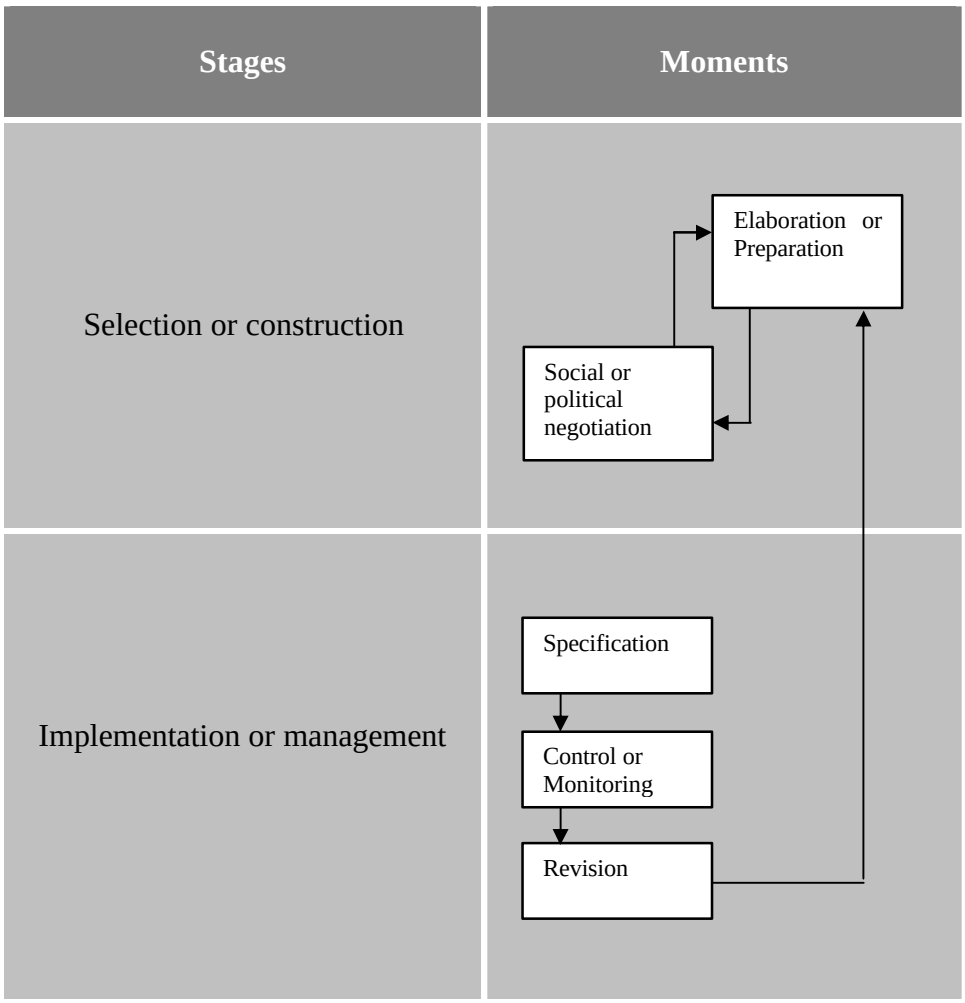


Fig.2
Planning selection system model

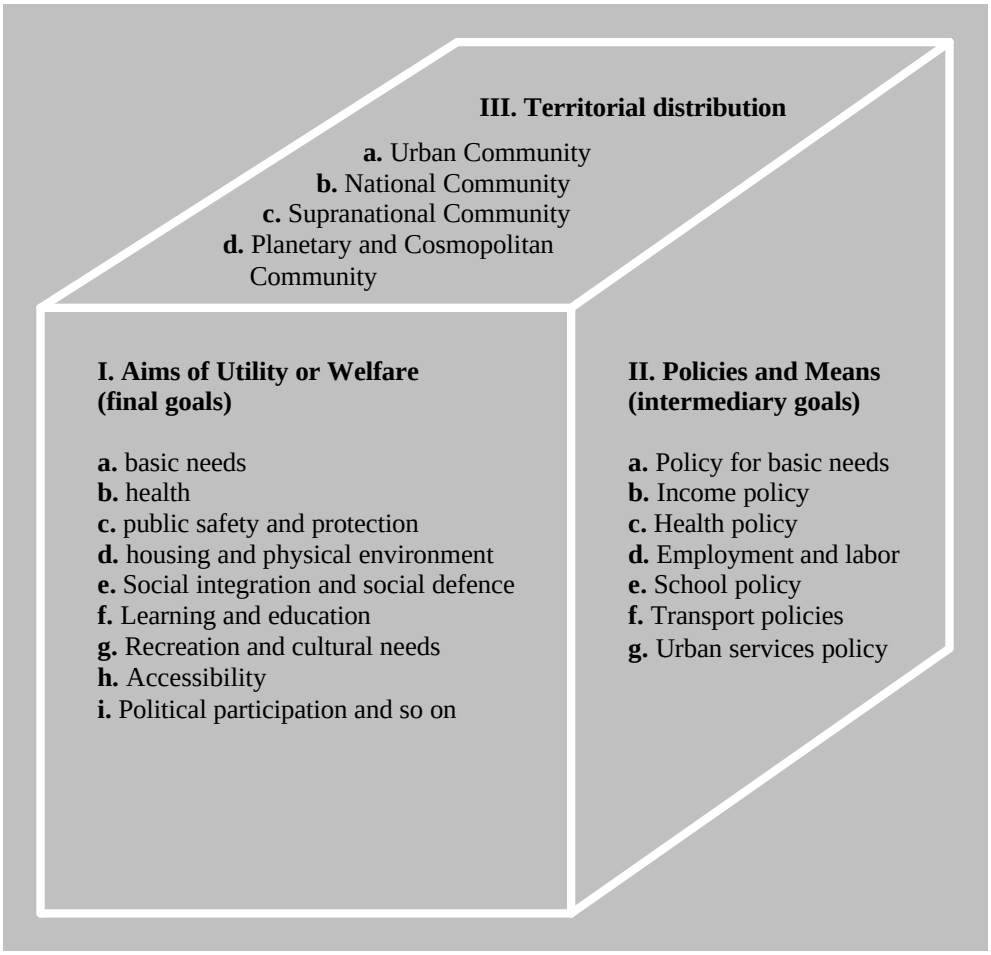


Fig.3

The implementation planning system model

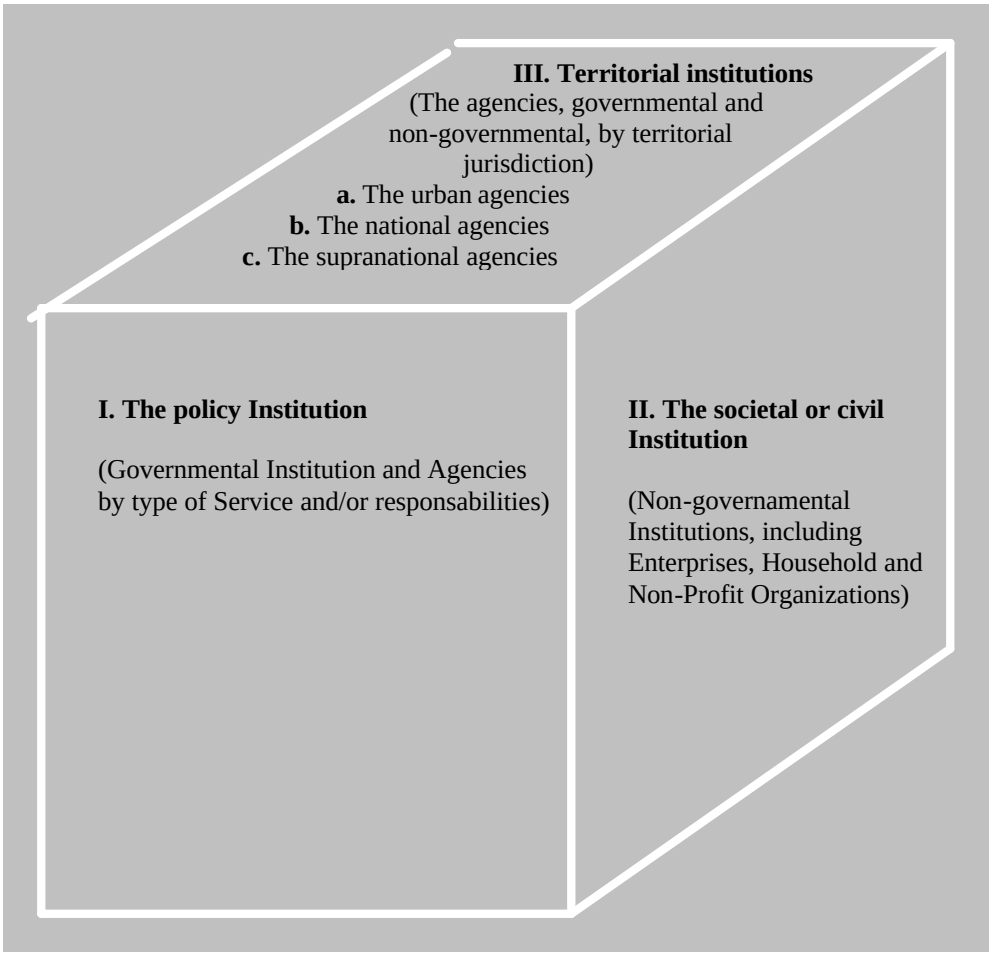


Fig.4

Control of the interactions between selection planning system and implementation planning system

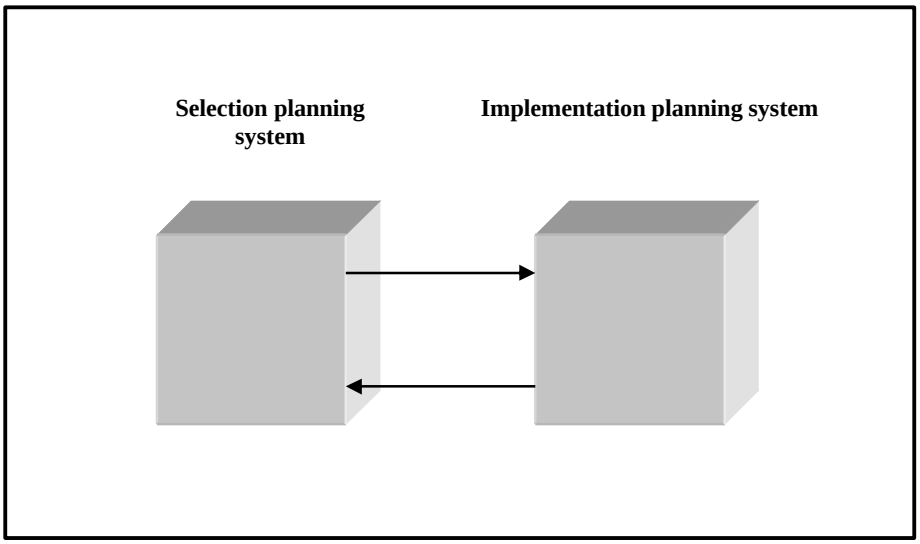
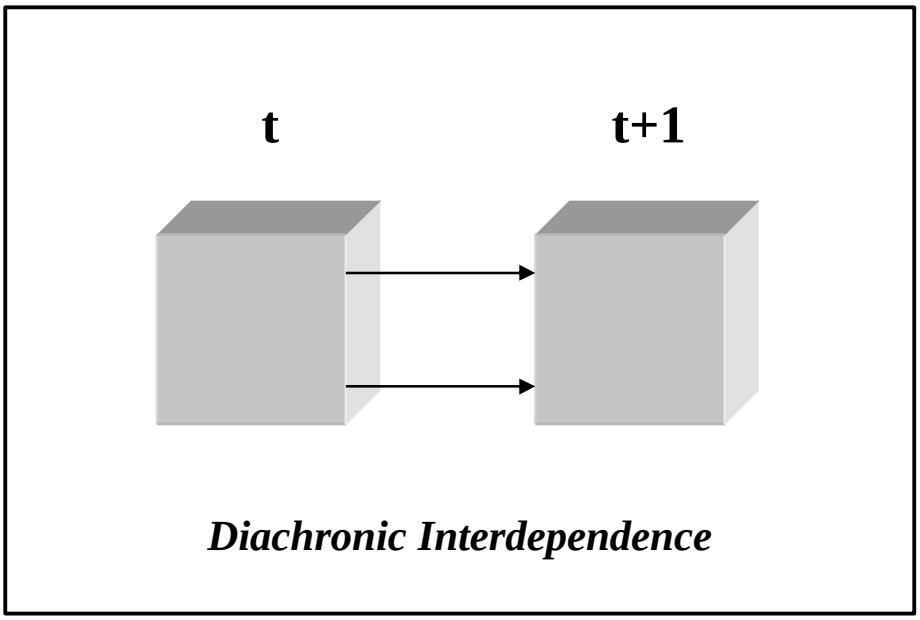


Fig.5

Diachronic conflict between planning systems