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Governing land and urban change: the approaches

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Abstract

The paper asserts that each new urban and land planning approach, (ranging from the environment assessment procedures and land suitability analysis introduced in the past, to the newer methods of resilience and urban metabolism) should be considered as useful support tools for the territorial government, but none of them in itself is sufficient to overcome the main issues that had a negative influence on the effectiveness of planning, and that contributed to the disrepute of the comprehensive planning tools. To safeguard the environmental resources it is necessary to assure a programmatic continuity of the political choices at different levels, both public and institutional, and of the private–public relations, nowadays overbalanced because of the generalized use of urban equal distribution construction rights and because of planning agreements on varying comprehensive plan, often without any justifiable reasons. To disentangle through the networks that connects the construction sector's interests and the expectations of urban and financial performances, it is necessary to develop new approaches and comprehensive planning tools able to involve townspeople and to share the aims of the comprehensive planning itself. It is necessary to acknowledge the ineluctability of bonds and precepts that seems to be forgotten in the present time, like owning public properties and public areas to be destined to urban services and ecological areas with regenerative qualities.

Keywords: Land and urban change, Resilience and urban metabolism, Comprehensive planning tools

Hypotheses, and a brief historical digression

Regardless of the different approaches to urban and land planning, we must first address the question of the defining characters of urban and land planning, both on the conceptual and instrumental plan. As we shall see, a first distinction between urban and land planning concerns the denominations most widely used in the field—an ambivalence often covering competence overlaps and shifts between different specific fields.

Nevertheless, the concepts and tools of both fields function within a practical framework, where the elements subject to intervention exist independently of how administrators, researchers and technicians perceive them. These natural and man-made elements cannot be univocally understood, as they are placed in a space–time

continuum, where each exists specifically (and, to an extent, autonomously) in a separate region of space.¹

Land and Urban Planning are thus the two sides of a reasoned local and city governance, and there can be no unqualified separation between them, but distinctions must be made between each discipline's specific planning tools: for instance, district-level strategies applying the urban-metabolism approach are very different from local plans involving the participation of both house-owners and non-owners.

Each choice must be based on a comprehensive knowledge base, identifying the constraints of natural elements, and outlining the network of relevant interests; each choice must be implemented through a shared policy functioning on different levels and in different fields of action. The dominant culture mostly favours two-step

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¹ About elements such as these, even the most celebrated of physicists, Albert Einstein, when trying to decipher the behaviour of elementary particles, said that “it seems hard to sneak a look at God's cards”.

policies² and, therefore, no shift in local governance policies can neglect to implement systematic citizen-involvement. This allows local authorities to operate more effectively, especially where the choice of tools and the expected results can be more directly controlled.

On these conditions, land planning can help to set restrictions on areas subject to natural and man-induced hazard, and on environments of special landscape or cultural value; plan for a lower-impact maintenance of infrastructure; and support regeneration programmes for deteriorated or disused buildings. Land planning can thus open the way for an overall collaboration among different towns and cities, in a perspective of local growth.

On these same conditions, urban planning can use its technical tools to design public and green urban spaces, devise regeneration programmes for existing buildings, and outline new dwelling and facilities sites, giving special consideration to power and water management, and waste collection and recovery.

Hopefully, land and urban planning can join forces to disentangle the network of interests tying the construction sector to the expectations of urban and financial performance, thus reconnecting political choices to the regulatory system, streamlining the existing regulations, and avoiding competence overlaps between local agencies. It is a long-term process, aiming to build a new culture of care of the land and urban quality.

Modern urban planning finds its roots in the concepts and tools seeking better health and safety conditions, developed at a time when European cities broke out of their walls, into the so-called urban complexity. Urban planning—a term coined by Ildefonso De Cerdà³—focused its range of instruments on the organization of minimum settlement units and habitability standards in terms of orientation, air flow, and lighting. Concurrently, the building of water supply and sewage systems, and the minimum size of dwelling spaces were considered, on the basis of past studies, such as those of Hippocrates,⁴ about the impact of soil, air and water quality on health conditions.

² See for instance those policies connecting each possible choice on social and environmental welfare to a growth in production and consumption, never acknowledging the central role of planning in stopping the “free play” of market forces from plundering the land. See G. Ruffolo, *Il carro degli Indios*, Micromega n.3, 1986.

³ While many contributed to the health and sanitary-oriented beginnings of urban planning in the 19th Century, Ildefonso Cerdà coined the term *urban planning* when working on his plan for Barcelona. He introduced the grid-plan model, entailing a square grid, whose elements are sized in width and height according to health and sanitary criteria.

⁴ See Hippocrates of Kos (c. 460—c. 370 BC), *On Airs, Waters, Places*, in *The Genuine Works of Hippocrates*, trans. and ed. Francis Adams (London: Sydenham Society, 1849). Hippocrates puts human health in connection with the influence of climate, and with the ethnographic characters in some areas of Europe and Asia.

On the other hand, land planning finds its purpose in the effort to ease the stress on administrative centres, by rearranging the area’s urban system through coordinated plans for infrastructure investments and new settlements placed in demographically and economically suitable areas.⁵ Italy tried to coordinate programmed investment and land planning at several points in the past: back in the 1930s, to support the early urban sprawl of certain municipalities; then again in the 1960s, to counter the first issues appearing in Italy’s chosen development model, through the *Piani Nazionali di Sviluppo Economico e Territoriale* (National plans for economic and land development) and the *Piani Verdi* (Green plans), up until the *Progetto’80*—hindered by the interest groups clustering around financial and urban performance; and then, more recently, with the Planning and Sector instruments, the *Piani d’Area Vasta* (District plans) and the ecological networks. All these tools, however—including the general urban development plans, or local urban planning—are increasingly set aside in favour of Integrated Intervention Programmes involving public and private operators, and especially with the alternative Programme Agreements, nowadays adopted on all planning levels.⁶

This results in a plethora of parallel instruments of decreased effectiveness, and frequent mutual inconsistency, especially at the passage between the plan’s formalization and actuation. This gap is discernible both on a national and regional or district level, but is especially relevant to local planning, more directly subject to the pressure of local and extra-local interests,⁷ and to a more effective degree of citizen involvement.

Consequently, the research and implementation of new approaches, such as those of resilience and urban metabolism, can easily fail in its goal to bring land and urban planning to the attention of national and regional political agendas. Politics, by offering declamatory dogoodism instead of clear guidelines for urban development, and criteria, restrictions and specific indicators, greatly hinder the chances to discuss any alternative to

⁵ On this subject, see the instances of regional-level land assessment, especially in English-speaking countries—such as those that led to the building of “new towns” in England.

⁶ Galen of Pergamon, a proponent of the therapeutic use of poison in small quantities, maintained that only excessive use makes poison deadly. Urban planning does not owe its current disrepute to the introduction of public-private integrated planning itself, but to the excessive recourse to such tools as Programme agreements, nowadays adopted as variations at all land and urban planning levels.

⁷ Italy counts more than 8000 municipalities, greatly differing in resident population, size and placement in respect to the networks—but all enjoying the same level of authority. Moreover, differences exist among different regions—for instance in regard to the landscape, whose conservation pertains on a national level, while its development was devolved to individual regions—with vastly different results.

the widespread equation of building volumes with services to be obtained.

Italy also differs in several ways from countries experiencing and implementing different planning levels: on the one hand, a different private property system, and a prevalence of small construction businesses; on the other hand, a gap in the use of technical tools between large cities and smaller towns. In English-speaking countries and Central Europe, developers mostly do not own the land, although they can own shares in one or more (usually large) building or investment companies. Conversely, in Italy, huge amounts of urban or development land are owned by large companies and developers, usually active in promoting the so-called planning innovations of large urban regeneration programmes; at the same time, a number of small landowners and construction businesses remain extraneous to, and sometimes hinder, any process of rationalization of the building sector, notwithstanding extremely rigorous building regulations that make even the most basic planning or variation permit quite hard to obtain.

The new approaches: potential and limits

Some Italian land planning and land and urban regeneration programmes have experimented with analytical and assessment tools. These experiments aimed to shape planning strategies and infrastructure choices through comprehensive knowledge, and a balanced combination of alternative investment options with the valorisation of the area's urban systems. Hopefully, this would result in a more effective management of large urban regeneration and renewal programmes, and a better interaction with operators and investors willing to try fresh planning approaches. Such aims cannot be taken for granted, when local urban development plans struggle to govern even the smallest local variations, while the regeneration programmes of urban fabric in major centres seek their political validation in large scenarios and the management of big events, with little attention to the delay and neglect these are bound to cause to other projects.

As recently as the 1970/80s, Italy introduced in the planning process the environment assessment procedure, sometimes supported by an analysis of placement suitability, as found in McHarg's Design with Nature approach.⁸ The aim was to anticipate planning choices through a knowledge of suitable land uses according to the area's characters and expected urban growth of each settlement. This was expected to result in a flexible procedure to implement and manage interventions within the framework of land suitability, and, in time, a new

planning culture, possessing the awareness to curb local demand and market pressure.

Back then, land planning pertained by law to provincial administrations, free of the constraints that would later come with certain regional regulations,⁹ and this allowed planners to experiment with the application of settlement suitability criteria, as well as with some forms of municipal cooperation, even anticipating certain sector plans, through a balance between available resources and land consumption. In Southern Lombardy, these experiments took the form of *piani di vasta area* (district plans), aimed to pre-empt both the planning of settlements in areas potentially subject to natural hazard, and a growth in agricultural land consumption in the Po Valley, among the most fertile areas in Europe.

These various experiments could be regarded, in some ways, as precursors of the resilience and urban metabolism approaches, or simply as the foundations of a new "build less and build better" culture. This new culture was expected to equip the planning process with a knowledge system and an assessment method designed to shape choices on every planning level, as well as with ex-ante and ex-post criteria for assessing all available options.

At the same time other experiments emerged, such as the green, ecological, and soft mobility networks—all of great interest, but often only applied on a voluntary or partial basis, whether through a lack of legal recognition, or because they were never organically integrated within area, municipal, or mobility plans. Moreover, these experiments can neither compare with the attractiveness of the new urban architectures of great urban regeneration programmes, nor deal with the intricacies of the regeneration process of many decaying suburban or smaller settlements.

The case taxonomy¹⁰ shows how the experiments described above, while not inconsistent with the more recent resilience and urban metabolism approaches, have remained extraneous to or been sporadically reprised within the implementation of regeneration programmes for administrative centres or smaller towns (even the historic ones). The resilience and urban metabolism approaches also face the same risk.

The land being an urbanized continuum, any anticipated and measurable beneficial impact must take into account what happens within each settlement and at its

⁸ See McHarg (1969).

⁹ At the time of the first PTCP (district-coordinated land planning) experiments, Italian Law 142/1990 had not yet been transposed at a regional level—thus allowing to adjust planning models to the characters, issues and potential of certain district areas. Later on, this model was subjected to the letter of the aforementioned law, as well as the changing political agendas of successive municipal councils, and the pressure of the real-estate market.

¹⁰ See Treu et al. (2000).

boundaries, as well as the general urban development plan, and other, larger, district and sector planning tools. Moreover, these experiments are often perceived and managed on a one-off basis, thus further hindering any chance to translate these new approaches into an established and shareable process. Only a widespread implementation of these experiments and the new approaches underlying them can create a culture prizing landscape value and the specificity of inherited urban organism. In the long run, this new culture will hopefully help curb those proprietary interests used to expand in every direction, with no regard for restrictions and critical issues.

Developers nowadays tend to mass together to manage ever growing investments, both nationally and internationally. Therefore the quality of environmental plan agreements or new planning approaches involving active citizen participation are no longer enough to counter the weight of their interests.

Italian Law 1150/1942 devised two concrete and straightforward courses of action: on the one hand, Art. 18 allowed every municipality—regardless of its size—the ability to acquire public land property, to be placed on the market once developed; further, Art. 40 allowed for the creation of areas of non-building land, inalienably and indefinitely. These regulations, though, have been applied less and less, sometimes with the blessing of those same progressive forces that “rode ahead on the project”,¹¹ never speaking against the recourse to expropriation first, and then taking part in the creation of Italy’s administrative regions. This long-awaited administrative innovation led nevertheless to the disappearance of urban planning from the national agenda, and to a plethora of regional regulations—that were later weakened by a ruling of the Constitutional Court of Italy in 1978, and so often modified and expanded as to be hard to comprehend and apply.¹²

In the face of the current race to hoard strategic resources—including sun, shadow, and wind—the time is past to wonder what will become of Dubai, with its new city entirely liable to the Arab Emirates, or, on a smaller and nearer scale, what will become of the large urban areas to be renewed, with their announced plans, and approved volumes, and uncertain but doubtless lengthy

timetables. It must be borne in mind that the developer’s remuneration is guaranteed by the increase in land value, and not by the amount and timeliness of the interventions.

Therefore, no discussion of these land and urban planning approaches must compare the strategies of even the most partial experiments to determine the factors of success and failure within a same framework and time period. There is no such thing as an entirely positive or negative planning experience, and each assessment must take into consideration both the overt or unspoken expectations and the end results of both the whole strategy and any course of action it induced—including the time factor.

A potential redemption of land and urban planning requires that the large programmes of urban renewal and social regeneration be put in context, together with a careful selection of those minor interventions that are harder to gauge and measure, but still expression of an on-going land consumption.

In this regard, the large water-management project for the river Seveso,¹³ finally started after many years of research and delays, can be extremely relevant, as it concerns the city of Milan, but also the network of small-to-middle sized municipalities and settlements surrounding the administrative centre. Its implementation, likely to be achieved in the next decade, will offer a chance to compare, through the water-management standards of the urban-metabolism approach, a project (formally a resource’s sector plan) for the management of a natural and man-made water system with the urban fabric’s resilience, cemented through the years because of the often flooding river Seveso. Such resilience has allowed the actuation of a number of integrated hydraulic works in the Seveso area, likely to shape, in time, a new quality landscape in the extremely compromised suburban area north of Milan.

Also relevant is the urban metabolism-inspired landscape planning programme actuated in a decayed area of Amsterdam¹⁴—within the framework of Holland’s unique development system—due to an unusual settlement density, and an industrial agriculture making the Low Countries the second food producer in the world, after the United States of America. A view from above shows a succession of intensive-farming fields, within easy view of sky-scrapers and sections of city skyline: it is the outcome of a 20-year-long programme of “precision agriculture”, implemented around cities with the aim of obtaining

¹¹ See Benevolo (2012).

¹² See the exemplary instance of the Regione Lombardia. Law 51/1975 was followed by Law 12/2105, further modified by Laws 20/2015, 6/2006, 12/2006, 24/2007, 4/2008, 5/2009, 7/2010, 3/2011. The modifications were so convoluted to induce A. Bagnasco and M. Viviani to compile for the League of Autonomies a booklet juxtaposing the texts of the last two regulations. Also interesting is the history of Law 31/2014 on land consumption, especially in regard to Art. 5, crucial to the means and time-frame for adjusting zoning plans in view of a containment of settlement growth estimates.

¹³ See M. Magoni’s contribution about the realization of the Seveso floodway, that crosses the area north of Milan and the neighbouring municipalities.

¹⁴ See R. Pistoni’s contribution about the redevelopment of the Buikslooterham brownfields area, in Amsterdam.

twice the amount of food from half the resources, while limiting the use of water, phytochemicals, and antibiotics.¹⁵ This policy, besides succeeding in limiting land consumption by new buildings, should be further assessed in regard to an overall balance between the protection of periurban free ground and the renewal of suburban decayed areas on the one hand, and the overall arrangement of farming lands on the other. Such balance could usefully suit other urban areas, such as the Po Valley in Italy—possessing significant hydraulic works and a high production capacity, but strongly polluted, and pock-marked with improper settlements and buildings, often disused or new and unused.

Prospects

The underlying issue is how much and in what ways can land and urban planning make use of such tools as resilience or resource flow management to overcome the ineffectiveness and disrepute nowadays afflicting most planning tools.

Each new land and urban planning approach—from the environment assessment procedures and land suitability analysis introduced in the past, to the newer methods of resilience and urban metabolism—can support the tools of territorial government, but urban policies are still responsible for their chosen aims.

For these past 20 years Italy has been using the tool of Integrated Intervention Programme in its broader form, including all kinds of land and urban regeneration and renewal programmes. This policy, that should have thrived on a virtuous cooperation between public and private operators, most frequently results in new shopping malls, public housing or free-market houses. Only too seldom it is invoked to intervene on public spaces in relation to existing urban and suburban landscapes.

These experiments mostly concern regional or provincial administrative centres, and are usually adopted as variations shortly after the approval of territorial, landscape or local general plans. At the same time, the settlement estimates of general planning, keep functioning on their own separate track, seldom reviewed or curtailed, as an unchallenged safeguard for the coincidence of land-ownership and building rights. This condition is increased by a widespread recourse to equalization, and upheld by open-ended terms of intended use—while those of public-service standard areas expire after 5 years.

An instance can be observed by comparing the actual history of the city of Milan since the adoption of the *Milano 2000* plan with a Territorial Zoning Plan that estimated a demographic growth equal to the whole population of Brescia, while at the same time reviving the urban plans for the junctions in the railway links. Also bound to affect the situation are the further building volumes envisaged by the programme agreement approved in July 2017, about the former railway yards. These areas will be added to the (slightly smaller) renovation and densification actions laid down in the current plan variation. Since the early 2000s, several consecutive City authorities have negotiated this course of action, on a project-by-project basis, often restating some commendable objectives, such as that of allocating at least 50% of the renewal areas as green areas. However, no stage of this process has provided an overall quantitative and qualitative assessment of the green areas that should allow for a greater soil permeability and uninterrupted green urban corridors.

A further noteworthy instance can be found in the *Piano d'area vasta per i Comuni del Soresinese* (District Plan for the Municipalities in the Soresina area), in the Provincial district of Cremona,¹⁶ envisaging a model of concerted urban planning among a number of smaller municipalities. In time, this plan could have resulted in a balance of resource consumption and results, in terms of resilience and/or social awareness—had it not been for the interventions of local interest that each municipality kept pursuing in addition to the programme's shared objectives. Nevertheless, specialised literature supports these experiments on the strength of the degree of citizen participation in the events introducing urban regeneration programmes, and for the consultations held over inter-municipal planning choices. This has certainly resulted in the amassing of a consistent knowledge base, especially among the organized groups in the younger range of local populations. It is a significant outcome, pointing towards a cultural shift, and increasingly aware behaviours. It is important to nurture this shift to keep the acquired knowledge base from dispersing, and thus cause frustration and indifference.

In this regard, a further effort must involve the universities, to recover a technical knowledge of those traditional planning tools that, in a not so distant past, served to support very effective actions. Such effectiveness could be traced to the straightforward connection between the contents and the technical and legal systems that made

¹⁵ The Low Countries are a small, densely populated country, numbering more than 500 inhabitants per km², apparently lacking the conditions for a highly productive agriculture. Holland's abovementioned agricultural programme is supported by the Brain Trust, the Wageningen University & Research's centre in Amsterdam, widely regarded as the world's foremost institute for agricultural research. Headed by Ernst van den Ende, a world authority on plant disease, the WUR endorses experimental farms and start-ups in the field of agricultural technology.

¹⁶ Between 2006 and 2013, the Soresina area (in the province of Cremona) has been the object of an experiment in district planning, within the framework of a cooperation between the Politecnico di Milano and the Department for Urban Planning. M. Magoni was the experiment's scientific director.

simpler the stages and typology of planning, as well as the distribution of competences and decision-making.

Especially noteworthy are, once again, the former Articles 18 and 40 of Italian Law 1150/1942 (still the one and only national town planning law). Two examples can be cited from the history of Italian urban planning: the town plans of Bologna¹⁷ and Brescia, where two City councils of different political persuasion similarly developed public areas in support of two different programmes of urban development. In both cases, reasoned and technically balanced policies have allowed, while still compensating ground-rents through the tool of expropriation, to offer developed areas at a reduced cost. Regrettably the neglect of the above-mentioned articles of law and the introduction of indiscriminate equalization have resulted in fact in overblown settlement estimates. Beyond the good intentions of the proponents, this outcome forces municipalities to allow higher building volumes to account for regeneration programmes, while the cost price of development land can rise to unviable levels. Just by changing hands, development land offers an economic benefit independent of the land's use—while the final owner must wait for another chance—perhaps publicly funded—in some distant future.

Nowadays, the technical tools available in the field of land and urban planning offer a much easier access to the knowledge of current condition and changes—from soil characters to water behaviour and wind strength and direction, to the conditions of surface infrastructure, services, and dwelling or service buildings. Therefore, in spite of the cumbersome regulations and slow bureaucracy, the ability to easily assess land and city conditions opens many more chances to further plans and involve citizens—on the condition that, together with this knowledge system, a cross-disciplinary language be made available, to define a limited number of significant status and process indicators,¹⁸ shareable at all planning levels, whether large or small and local. Such a set of indicators must be suited to support different planning approaches, as well as a definition of objective indicators, by acknowledging the time and space continuity of the phenomena the plan must handle, and gauging the whole plan's effects, rather than those of single interventions. In other words, every choice regarding the placement and size in relation to the different uses, as well as the assessment of a plan or intervention's results, must be informed by the land's geopedological and hydrogeological characters, within the restrictions of those natural factors and social behaviours that escape prediction and safe control.

Moreover, each project must take into account the impact of orientation and ventilation on the design and exposure of a settlement; the network of infrastructure and services providing persons and goods mobility; the computer and service network—and, in general, all those existing urban facilities that could prove inadequate in the face of a potential population growth. All of this requires institutional coordination and effective policies with the ability to influence regional regulation, as well as the commitment of technicians, engineers and designers to share and divulge their knowledge and experience, instead of restricting themselves to specialist and theoretical work.¹⁹ All gaps must be avoided between technical and common language—such as can often be found in the planning presentations on municipal websites. One exemplary instance comes from the Municipality of Milan's wordy planning overview: "Attractiveness and inclusion, urban renewal, resilience, space and service quality, streamlining and participation—these are the goals, themes and strategies chosen to develop and govern the City of Milan." The opening of a path for virtuous connections in the construction sector, and the enabling of new intervention modes that entail quality and cost-end price liability, must involve more subjects, more interests and more behaviours: a new and different culture, acknowledging the value of both natural resources and the city.

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The author declares that this study does not involve human subjects, human material and human data.

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¹⁷ See Treu's (2003).

¹⁸ Process indicators are linked to changes and to the resilience approach—a method entailing a strictly process-oriented view of its goals.

¹⁹ See Lewis Mumford (1922).

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