



Futures Literacy as a reading key for strategic spatial planning: A community learning process for defining shared futures in the Ombrone River Agreement[☆]

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ABSTRACT

The capacity of future literacy to emancipate the community is seldom explored in spatial planning, which often refers to governance processes, community empowerment, the role of actors in the implementation of strategies and actions. Being spatial planning an anticipation discipline, its capacity to envision regional futures is usually taken for granted, and the participant's use-of-the-future capacity has low momentum in both research and planning practices.

To overcome this gap, the paper proposes to relate these processes to the concept of FL, and proposes a reflection on the conceptual and practical relationships between FL and methods for thinking about the future in strategic spatial planning. In particular, we read the case of the process toward the Ombrone River Agreement (Italy) in terms of Futures Literacy, considering the process of prefiguring the future as a collective learning process. The 3 FL steps defined by Miller (2007) are assumed to be the interpretative framework from which to approach FL in terms of both learning the future and enhancing this learning process.

The findings suggest that application of an FL perspective to strategic spatial planning offers potential for enabling participants to engage in a trans-scalar approach and enhancing the operativity of strategic action plans.

1. Introduction

In spatial planning, the “use of the future” is one of the main assumptions: scenario planning and visioning are typical methods for “looking into the future” (Salewski, 2012:14) and are used to define the possible futures of cities and territories in a process that was bottom-up in traditional planning and achieved through proposals for the future institutionalised into statutory plans referred to administrative boundaries at different scales (from municipal to regional and national ones). The most well-known example of scenario planning is the French “prospective,” which has operated since the early 70s formulating alternative and desirable images of the future to be formed by public policies. This was mainly handled by the French National Spatial Planning Agency (Délégation à l'Aménagement du Territoire et à l'Action Régionale – DATAR), while in The Netherlands it involved the formation of different seasons of national plans (Balz & Zonneveld, 2018; Salewski, 2012).

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Since the 80s, the rise of overwhelming uncertainty in all aspects of life (values, technology, politics, production, religion and the environment) has changed spatial planning theories and practices: bottom-up, governance-oriented practices have impacted recent planning practices, together with the emergence of soft planning spaces with fuzzy boundaries in which spatial planning is conceived as a way to define visions of different futures for a city and a territory (Aache, 2019). This usually relates to strategic planning as a form of collective action (Albrechts, 2004; Healey, 2007), giving rise to soft-planning spaces challenging administrative boundaries (Allmendinger & Haughton, 2010) on the basis of visioning practices that aim to make the future of a region visible (Lingua & Balz, 2020).

However, there are few reflections on how these practices have changed peoples' minds and on the mechanism through which these planning practices have led to mutual learning processes among the stakeholders involved in the future of their territories (Haughton & Allmendinger, 2015; Hincks et al., 2017). The concept of Futures Literacy offers interesting insights in this sense: understood as the capacity to prefigure the future that can be learned, this activity can be encouraged through different methods and techniques (Miller, 2007), some of which are institutionalised, like the Future Literacy Labs promoted by Unesco (Miller, 2018). Literacy is intended as a human capability that goes beyond just learning to read and write a language: by involving profound meaning and fluency, it enables people to understand and interpret information as well as to shape identity and create a new vision of their present and future. In this sense, FL emancipates both individuals and the community. This capacity is seldom explored in literature on spatial planning, which often refers to Participatory Research and Action Research including the goal of local empowerment through the facilitation of knowledge in the research process (Sillitoe, 2006). However, these governance processes have never been related to the concept of futures literacy, and a reflection on the conceptual and practical relationships between FL and the range of methods for thinking about the future in spatial planning is lacking.

This paper tries to overcome this gap by exploring how the methods and practices usually used in strategic spatial planning can be challenged by and refer to 'Futures Literacy' processes. To this end, we refer to a particular strategic planning practice: the definition of a River Agreement (RA). We chose this experience because it is a voluntarist form of soft planning, unlike statutory planning where the definition of the future development of a city and territory are institutionalised in methods and tools defined by law, and transform the future narrative into land use maps and a regulatory apparatus with a very normative character. Softer forms of spatial planning have been chosen, instead, for their capacity to explore a process of anticipation that is outside the boundaries of the conventional "use-of-the-future" (Miller, 2018:5).

The River Agreement (RA), in fact, is a voluntary agreement that mobilises participation by all the stakeholders along the riverside in an agreement forged between administrations and citizens that extends beyond administrative boundaries and embraces institutional and non-institutional actors at different scales. Created on the basis of strategic and negotiated planning, it is a regional design process aimed at integrating wide-ranging subjects (water and soil protection, environmental and landscape protection, territorial development) at both local and basin scale, by defining strategies and actions to orient local and regional planning, programmes and policies and to attract combined forms of funding. RA is a multi-faceted process in which issues ranging from riverside safety and sustainability to interactive local development (Carter, 2007) are discussed in a decision-making process involving as many different stakeholders as possible, both in terms of their socio-economic nature and their importance within the decision-making arena.

In particular, we explore the case of the Ombrone River Agreement (Italy, second river in Tuscany after the Arno River) promoted by a small local committee of concerned community members striving for enhancing their territory. Following two flooding events, the "Committee for the enhancement of the landscape and environment of Buonconvento" [Comitato per la valorizzazione del paesaggio e dell'ambiente di Buonconvento] embarked on a long-term objective at territorial scale covering a vast area: the activation of a River Agreement (RA) aiming at the (re)construction of a waterside community that had been broken up, through the enhancement of the river and waterside landscapes and the construction of a shared vision for both the basin and the local communities. Accompanied by the Regional Design Lab (ReDLab) of the Architecture Department of the University of Florence, the participatory process implemented to promote the development of the Ombrone RA is in continuity with a path of increasing awareness of the territorial area of reference, the nature of the problems, as well as the potential deriving from overcoming parochialism to form the waterside community of the Ombrone.

Literature has given momentum to the value of these processes in dealing with conflicts and defining a general and shared riverside development framework (Affeltranger & Lasserre, 2003) through a decision-making process that aims to promote vertical or horizontal subsidiarity by overcoming the strictly technical and sectoral nature of the traditional forms of water governance based on top-down hierarchies (Eckerberg & Joas, 2004). Much focus has been placed on how these processes have contributed to the reactivation of "basin communities" (Magnaghi, 2011): RAs contribute to the reconstruction of know-how and identity-based knowledge linked to hydrogeological protection, the ecological enhancement of the river landscape and the development of multifunctional farming methods, through forms of inter-scalar governance motivated by social resilience (Pearce, 2003). In this sense, RAs are interpreted as resilient planning instruments for the co-evolution of communities and landscapes (Voghera, 2020) enabling populations to generate new urban and rural relationships, set up local initiative networks and generate integrated development policies.

A shortcoming in this literature concerns the vision of the river these practices are based on and, in particular, the future they refer to, as well as the process of constructing this future vision that inspired these multi-level and multi-faceted experiences (Pisano & Lingua, 2019). Do different actors aim to pursue a process of gaining awareness of the future? How have different expectations been reassembled in a shared vision, even through conflict resolution processes? In general terms, have futures literacy processes occurred among the different stakeholders and, in general, the river community? How have they been managed? Have any actors played a role in these processes? Bearing all these questions in mind, futures literacy can be referred to as a reference framework to obtain a different reading of these practices, based not so much on governance processes and their outcomes in terms of identity and action, but rather the reasons behind them, which refer to the construction of a shared future for the river basin and the waterside community.

To this end, we first explore what Futures Literacy means in relation to strategic spatial planning practices (§2). We refer to Miller's

(2018) definition of Futures Literacy as a means to understand how to “use-the-future” in different ways through critical reflexivity that enhances the community’s anticipatory assumptions and visions of its future, as well as its identity and capacity to make sense of changes and the new challenges of the status quo. In particular, the 3 steps defined by Miller (2007) as a hybrid strategic scenario method for developing FL are assumed as the interpretative framework in which to develop the arguments covered in this paper. The issue of futures literacy is approached in terms of both learning the future and enhancing this learning process, by combining these two aspects in a strategic relational perspective in which the actors involved in the process of spatial planning engage in mutual learning processes.

In particular, the case of the Ombrone River Agreement is approached as a form of voluntary collective strategic planning practice in which the joint effort of the University and the local community has led to a future projection in which actors have achieved a “future-thinking” attitude that lead to a shared vision of both the basin and its local realities. Using the interpretation model introduced in § 2, § 3 examines the path taken for the bottom-up construction of the RA.

The reading of the outcomes of the participatory path leading to the Ombrone River Agreement in light of the interpretative categories of futures literacy is proposed in §4, where the outcomes of the process are delivered in terms of the actors’ capacity to have shared expectations, reframing the local and regional visions for the river basins. The outcome of the FL process was a broad and structured vision of the future geared towards action with strategies implemented through local pilot projects, which represented moments of aggregation of the collaboration networks to create synergies and were executed through integrated financing methods. Lastly, §5 defines perspectives of both further research (University) and action (participants of the Ombrone RA).

2. Futures Literacy as a community learning process: an interpretative framework

Miller (2007) defines Futures Literacy (FL) as “the capacity to explore the potential of the present to give rise to the future by developing and interpreting stories about possible, probable and desirable futures” (Miller, 2007:347). Similarly to learning to read, FL proceeds by steps, from learning the alphabet to deciphering the message in a text or even writing a new text (Valerio, 2019:28).

Given that “Futures literacy is practiced – most often unknowingly (future illiteracy) – around the world” (Miller, 2018:4), FL is a skill that can be revealed and obtained through learning processes. “Such learning processes, as Dewey (1997) pointed out long ago, always begin with a disruption or realisation that there is something we do not know or do not understand [...]. With respect to FL, what we do not know, or at least do not think about very often or in much depth, are the answers to the questions: “What is the future?”, and “What methods do we use to ‘know the future?’” Most of the time, given people’s ‘futures illiteracy,’ these questions are not even posed.” (Miller, 2018:6).

These questions are implicit in spatial planning: foreseeing the future to prefigure the development of a territory is taken for granted in spatial planning practices: in the Foresight Maturity Model of Grim (2009), visioning (the capacity to decide what the organisation wants in the future) and planning (the capacity to develop planning, skills and processes that support the organisation’s vision) processes are usually associated with mature levels of anticipatory disciplines, as they are based on expertise, scientific resources and advanced processes of foresight.

However, while there is extensive literature on planning and visioning methods and experiences, when dealing with FL we should refer to the attention that planning literature places on processes of collective learning and sharing the generated knowledge with the broader community from an experiential perspective of learning by doing (Dewey, 1938): learning is therefore not merely a passive act but a complex social experience in which each individual is mutually enriched by free exchange.

The concept of collective learning is considered the basis of modern planning (Saija, 2012). In the *transactive planning* model proposed by Friedman, each individual becomes an active part in mutual learning experiences: ‘it is at the transition to action, that social learning becomes possible. In social learning the results of action are examined in the light of expectation or altogether new discoveries’ (Friedman, 1979:69). In collective action the actor is a group held together by dialogue among its members, through a process that unfolds in three steps: “Knowledge, action, learning: these are incarnate in the Good Society, each of whose members, forming part of the whole, also contains the whole and yet is separable and individual” (Friedman, 1979:70). The protagonist of this collective learning process is the individual who, stimulated by a thoughtful planner (Schön, 1987), transforms knowledge into action. In order to become collective this process is broken down into several levels (Argyris & Shön, 1978): from the creation of new individual knowledge at group level to the sharing of knowledge among several groups which, by interacting with each other, create and institutionalise¹ new knowledge that up until then belonged to just one group, thereby defining collective knowledge that can be defined as a common asset. The community therefore becomes part of the learning path. In planning processes, this shared action leads to the definition of strategies that are accompanied by visioning processes aimed at prefiguring the consequences of the choices on the territory.

This process of collective learning geared towards action, if described as futures literacy, implies an interruption of the routine action of ‘using-the-future’ which provokes the feeling that there is a problem when imagining the future. This realisation kicks-off the learning cycle that serves most action-learning processes (Almirall, Lee, & Wareham, 2012) and leads to a choice of “stories” (Miller, 2007), in planning “scenarios” (Ogilvy, 2002; Salewski, 2012) among many stories/scenarios defined for different purposes in the context of complex and ambiguous situations.

Within this learning process, the 3-step interpretative framework proposed by Miller (2007) as a strategic scenario method and its

¹ Institutionalisation is a process of standardising learning that occurred at the level of individuals and groups within the organisation.

application to Futures Learning Laboratories (Miller, 2018) offer interesting insights into how to analyse the formation of shared scenarios among different possibilities and the consequent process of learning how to use-the-future that occurred to/affected the involved actors.

Level 1 FL deals with developing temporal and situational awareness. People involved in the process gain awareness about how change occurs over time and of the positions of particular communities and organisations according to their values and expectations: “By revealing common goals and shared assumptions, the typically discursive group processes used to develop Level 1 FL help to forge stronger teams and build the kind of confidence needed to make decisions about the future. Much applied foresight is practiced at this level and has an admirably successful track record at improving team and leadership capacities” (Miller, 2007: 347–348). There are many techniques for constructing Level 1 FL and there is no need to invest in preparing big data sets about trends or generating forceful scenarios as catalysts for these steps: the main achievement is to enable people to express their views about the kind of future they would prefer and expect: “this first phase is the ‘easy’ part, as participants shift what they already think about the future from implicit to explicit and build shared meaning” (Miller, 2018:102). In this phase, it is not important to find consensus or a shared ‘vision’ but, rather, to bring the diverse perspectives to the surface in order to provide a rich picture of different visions.

The second level FL is defined as “the capacity to overcome the limitations imposed by values and expectations when thinking about the future” (Miller, 2007:350). The most important achievement of this phase is the distinction between probable and preferable futures, both being subcategories of what is possible. Starting with the logical, and expanding the range and analytical content of possible futures, in this phase the people involved develop the capacity to distinguish conceivable, possible, probable and desirable scenarios. While Level 1 FL largely involves shifting knowledge from its tacit to explicit form, i.e., what people already know about time, preferences and expectations on the base of learning processes that reveal to people their existing assumptions, this phase calls into question these individual and collective anticipatory assumptions, i.e. the premises and (cultural, educational, societal, personal) factors that determine different imaginaries of the future, in order to discover the unknown (new knowledge that must be revealed).

This process of reframing implies both abstraction and concretisation. Abstraction occurs when participants abandon the “comfort zone” of familiar fixtures, “opening up a distance between the specific ways things are done in the present, like education that happens in schools, and the general nature or function of an activity, like learning that can happen anywhere. Concretisation occurs when participants are supposed to describe how things work but in a world imagined on the basis of strange anticipatory assumptions. All of this is hard because participants are usually not accustomed to using their imaginations in this way” (Miller, 2018:104).

Level 3 FL “uses values and expectations to assess today’s choices [...] and provides the link to action” (Miller, 2007:356). This is a phase of consciousness enhancement in which “participants manage to begin to feel comfortable differentiating deterministic from non-deterministic ‘uses-of-the-future’. They begin to see the box for their imagination created by deterministic uses of the future and start to imagine what it would be like to be able to invent different anticipatory assumptions, including ones where the reasons for ‘using-the-future’ might be different” (Miller, 2018:106). Moreover, in this phase the visions defined in level 2 became operational. Through a strategic planning process aimed at defining goals, making choices and identifying actions, this phase “helps decision makers to question current goals in explicit, actionable terms by drawing clear contrasts between the assumptions and content of the present policy and the outcomes and preconditions of the strategic scenarios” (Miller, 2007:357).

The succession of these phases can represent a useful reference for constructing action-learning processes aimed at FL (Miller, 2018), as well as for guiding the designers and implementers of collective intelligence knowledge creation processes (Ehresmann, Tuomi, Miller, Béjean, & Vanbreemsch, 2018).

In this paper, reading by phases is used rather as a key to understanding a collective learning process for the development of an RA, through which a varied and differentiated framework of values took shape and became a key element in the construction of shared future scenarios, at regional scale.

3. Towards the Ombrone River Agreement: an experience of futures community learning

The theoretical framework introduced above was employed in the case study of the Ombrone River Agreement in Italy to analyse the route and identify the outcomes, not only in terms of the empowerment of the community but also of futures literacy: the process of gradually acquiring use-of-the-future capacity takes shape through the combination of local knowledge and the knowledge of university researchers who are experts in the use of foresight methods and techniques and aware of playing a civic role in making these skills available to the community (Table 1). In particular, we focus on the role of the actors who promoted the learning process: the local committee, i.e. the initial driving force for the process, and the University, whose task was to simultaneously provide learning and actively participate in the learning process.²

After a short description of the background, the participatory process “OSIAMO!” [Let’s try] is interpreted in light of the interpretative framework of FL as a mayor achievement of awareness of the anticipatory assumptions of the different stakeholders involved in the governance process to define a shared vision for the river agreement.

For this purpose, the narratives and spatial representations produced in the participatory processes were evaluated in terms of their

² This latter function is interesting for two reasons: on the one hand, the University and some disciplines in particular, including those linked to spatial planning, have always dealt with providing knowledge and methods of anticipation and developing research in this regard, which represent useful bases for those who develop FL. On the other hand, knowledge and the methods of these disciplines not only shape teaching and research, but can also be used to encourage the “engagement” of the university itself in FL processes, therefore developing the function of a “civic university” (Goddard, Hazelkorn, Kempton, & Vallance, 2016).

Table 1
FL phases in the participatory process for the Ombrone RA.

Futures literacy phases (Miller, 2007, 2018)	Participatory process for the River agreement OSIAMO!	Role of the promoters		Output in terms of community learning concerned with how to “use-the-future”
		Local committee	University (ReDLab)	
Level 1: Awareness Reveal phase: tacit to explicit - easy	Semi-structured interviews River walks Focus groups Listening and animation activities	Territorial animation Leadership in conducting the process Enlargement of the partnership Local animation	Add “scientificity” Kick off and stimulate debate on futures Provides the Atlas of Knowledges	From river as a danger to river as an opportunity for local and regional development (intuition)
Level 2: Discovery Reframe phase: Creative, inventive, experimental - difficult	Thematic Focus group concerned with the 3 scenarios Local Workshops in Buonconvento (maquette masterplan) and Cinigiano (Parish map)	Promotion of the River Agreement Enlargement of the partnership	Visioning Application of the Regional Design method Visualisation of 3 Scenarios Visioning of a whole vision for the entire basin Workshops on 2 Pilot project contexts Strategic Planning through Action Cards: from the local to the basin and back	From probable to desirable scenarios: From flood risk management to fruition of the river and definition of its role as an element of local development Definition of the “river community”
Level 3: Choice Rethink phase: compare, reflect, consolidate - easier	Definition of the Action Plan for the RA			Awareness of the role that each actor can play in the implementation of the action plan, intended as a roadmap to achieve the “desirable future”

relation to the three phases discussed above, and spatial representations used in the framework of a regional design process that help to define new and integrated visions of the future of the river basin were assessed, together with changing the logics of stakeholders’ arguments about integrated expectations. The methods employed included interviews with key informants, field-based observation and the collection of local documentary sources (in Italian), together with the observation of changing imaginaries within the process, since one of the authors was an active member of the Local Committee since its foundation (2011) and both authors were involved in the ReDLab activities.

3.1. Background: from flooding episodes to the promotion of the River Agreement

Two flooding events (2013 and 2015) affected the inhabited centre of Buonconvento, where the historical city centre and the twentieth-century expansion were completely flooded and the regional railway line was destroyed together with a bridge, leading to the isolation of a whole settlement for more than six months.

Right after the first flooding event in 2013, the “Committee for the enhancement of the landscape and environment of Buonconvento” reached out to the institutions in charge of governing the territory and the river basin (Saija, 2016:114) in order to find the most appropriate way to quickly restore the bridges and the road and railway networks. As part of these discussions with the institutions (Land Reclamation Consortium for the Ombrone Basin, Regional Civil Engineering Department, Province, Municipalities), which took the form of conferences organised in partnership by the Committee and University, a disaggregated framework of competences emerged, together with the need to activate integrated policies for soil and water protection as well as the enhancement of the territory and environmental resources.

The change of the president of the Committee, in 2016, gave rise to the idea of setting up a River Agreement as a new form of collaboration, the aim of which was to rediscover a shared vision of commoning of the river system. To this end, the participatory process “O.SI.AMO! Verso il contratto di fiume Ombrone” was finalised by the Region and launched in November 2017 with the aim of 1) building a collective image of the waterside community; 2) defining a shared vision of the territorial development, in reference both to the local specificities and the river basin as a whole, in relation to the renewed perception of the river as a resource and opportunity.

To interconnect these scales, the Committee has identified the ReDLab as a partner in the definition of a research-action pathway aimed at conveying institutional interest in the process and, at the same time, improving the perception of the river and its future of the citizens residing along its banks. The research was supported by a scenario setting based on Regional Design methodologies (Lingua & Balz, 2020; Pisano & Lingua, 2021) and identified two pilot project along the river within the municipalities of Buonconvento and Cinigiano, respectively in the provinces of Siena and Grosseto.

3.2. Phase 1. Awareness – revealing different expectations about the river basin

The first phase of the project included a series of activities aimed at highlighting citizens’ different perceptions of the river: semi-structured interviews, walks, focus groups, listening and animation activities. Moreover, the participatory process also involved children through focus groups and design workshops in the schools of the two concerned municipalities, which involved more than 200 children and functioned as a catalyst to parents (Raymond, 1999), involving families both directly and through the eyes of their children.

In the focus groups, each participant was asked to explain the problems relating to the river area and their expectations for the

Table 2

From stakeholders' futures expectations (FL 1) to their systematisation into scenarios (FL 2) and undertakings (FL 3).

ACTORS (and related planning instruments, when actors are institutional ones)	1. Expectations	2. Recomposition into shared visions	3. Engagement on the Action Plan for the Ombrone RA (undertakings)
TUSCANY REGION - Regional Spatial Framework and Landscape Plan (Piano di indirizzo territoriale con valenza di piano paesaggistico-PIT/p)	Landscape protection Conservation of biodiversity of river banks as ecological corridors Valorisation of local and territorial heritage	VISION 2 – Environmental and eco-systemic quality VISION 3 – Fruition and local development	Landscape protection Valorisation of Landscape peculiarities Valorisation of viewpoints and scenic roads Valorisation of local and territorial heritage
TUSCANY REGION - Regional Mobility Plan (Piano Regionale Integrato Infrastrutture e Mobilità-PRIM)	Sustainable mobility (no mention to the accessibility and fruition of river contexts)	VISION 3 – Fruition and local development	Promotion of slow and responsible tourism New trekking and cycle paths along the river Connection between different mobility systems (bus/train/cycle)
TUSCANY REGION – Regional Plan for Mining Activities (Piano Regionale delle Attività Estrattive-PRAE)	Management of quarries	VISION 1 – Risk and infrastructure	Use of closed sand quarries as expansion tanks
TUSCANY REGION - Rural Development Programme (Programma di Sviluppo Rurale-PSR)	Sustainable management of natural resources and competitiveness of the agricultural sector	VISION 2 – Environmental and eco-systemic quality	Ensuring that the agricultural management be attentive to soil consumption and regeneration Conceiving the farm operator not as an exploiter but as a custodian of his own territory Involving and empowering the inhabitant of rural and derelict agricultural villages Networking farms and farm holidays with integrated multisectoral projects Consolidating sustainable agronomic practices
DISTRICT BASIN AUTHORITY OF THE NORTHERN APENNINES - Flood Risk Management Plan (Piano di Gestione del Rischio Alluvioni-PGRA)	Hydraulic risk mitigation Maintenance of residential areas and network infrastructure with areas of controlled flooding	VISION 1 – Risk and infrastructure	Enhancing the ecosystem functions of watercourses Promoting the biodiversity both outside and inside the river Increasing the degree of hydraulic safety of the historical centre of Buonconvento Ensuring the proper functioning of road connections and local mobility in case of flood events
BASIN AUTHORITY - Basin Plan - Hydrogeological Plan (Piano di Bacino e Piano di Assetto Idrogeologico-PAI)	Maintenance of the ordinary water grid Extraordinary reclamation works	VISION 1 – Risk and infrastructure	Sharing knowledge with local communities, including “non-expert” actors Strengthen preventive measures for risk management Classification of homogeneous typological traits of the water network Reduce orographic criticalities
TUSCANY REGION – Multi-year intervention programmes (Programmi di intervento pluriennali)	Promotion of local development	VISION 3 – Fruition and local development	Promotion of slow and responsible tourism Promotion of liveability and knowledge of the river environment Integration of existing tourist offers connected to landscape fruition
LAND RECLAMATION CONSORTIUM Reclamation activities plan (Piano delle attività di Bonifica)	Maintenance and management of the water system	VISION 1 – Risk and infrastructure	Ensure biodiversity Integrating hydraulic safety requirements and actions for environment protection Contrast to invasive alien species Promotion of ecological and sustainable management of the river environment
SIENA PROVINCE – Provincial Territorial Coordination Plan (Piano Territoriale di Coordinamento Provinciale)	Mobility and territorial strategy	VISION 3 – Fruition and local development	Ensuring the proper functioning of road connections and local mobility in case of flood events
COMMITTEE FOR THE ENHANCEMENT OF THE LANDSCAPE AND ENVIRONMENT OF BUONCONVENTO (Cultural and environmental local association)	Risk mitigation and river community building Community animation by events, conferences and trekking	VISION 1 – Risk and infrastructure VISION 3 – Fruition and local development	Enhancing natural and cultural heritage Supporting slow and responsible tourism Creation of synergies within tourism

(continued on next page)

Table 2 (continued)

ACTORS (and related planning instruments, when actors are institutional ones)	1. Expectations	2. Recomposition into shared visions	3. Engagement on the Action Plan for the Ombrone RA (undertakings)
			activities, landscape protection and agriculture Encourage a new relationship with the river Consolidating the territorial trust network Promoting bottom-up participation Disseminating knowledge and information about the river and its management and fruition Creating a community who recognises value and centrality to the river (River community)
TERRAMARE (Sport Association)	Fruition of the river and its banks (rafting, padding, trekking)	VISION 3 – Fruition and local development	Promoting the river fruition through recreation sites, trekking and cycling paths Enhancement of the river for environmental, sport and recreational tourism Promoting bottom-up participation Disseminating knowledge and information about the river and its management and fruition Creating interchange point in which entering the river (for navigation and fishing)
LOCAL FARMERS AND FARMERS' ASSOCIATION (Category association)	Preserving crops from floods Avoiding trekking path contrasting the crops settlement	VISION 1 – Risk and infrastructure VISION 3 – Fruition and local development	Definition of crops compatible with the presence of flood retention basin Co-design of trekking path using interpoderal viability
FRIENDS OF MURLO (Cultural and environmental association)	Protection of ecological corridors Management of riparian vegetation	VISION 2 – Environmental and eco-systemic quality	Enhancing natural and cultural heritage Supporting slow and responsible tourism Creation of synergies within tourism activities, landscape protection and agriculture Disseminating knowledge and information about the river and its management and fruition
LEGAMBIENTE (Environmental association)	The river as an ecological corridor without sharp cuts	VISION 2 – Environmental and eco-systemic quality	Preservation of the ecosystem network of the Ombrone river basin Pursuing the highest level of integration between the needs of naturalness and hydraulic safety Promoting the active protection of the river
POGGI DEL SASSO (Cultural association)	Collective Memory of past and present	VISION 3 – Fruition and local development	Enhancing natural and cultural heritage Supporting slow and responsible tourism Defining a slow mobility network Disseminating knowledge and information about the river and its fruition
PRIMARY SCHOOLS	River as a space for playing, discovering, swimming Playgrounds Adventure park Teaching gardens and educational open spaces	VISION 3 – Fruition and local development	Contributing to enhance knowledge about the management of water resources Promoting the river Basin through experiential exchanges
JUNIOR HIGH SCHOOL	Open air sport activities Sport infrastructures (skate park, basketball court) Water Park	VISION 3 – Fruition and local development	Contributing to enhance knowledge about the management of water resources Promotion of activities aimed at enhancing knowledge and involvement of young generations living along the river

future. The activities were carried out using the “localised” post-it technique: using the positioning on maps of the local contexts of Cinigiano and Buonconvento and a maxi map of the entire basin (3 × 2 m) the participants learned the relative position of the local context with respect to the entire basin, as well as the positioning of problems and opportunities; this effort to expand the horizon of the reference space made it possible to contextualise site-specific questions and also to identify generalised questions about the whole basin. The focus groups were based around an important work by ReDLab, that collected and made available in simple terms and maps knowledge obtained from the sectoral planning documents of the various bodies that govern the territory (Atlas of Knowledge) to create a positive exchange between expert knowledge and local knowledge (Magnaghi, 2007).

Highly differentiated anticipatory assumptions emerged in this phase, precisely due to the origin of the various participants from different places and associations and institutional bodies that deal with different skills (Table 2). The future images developed by the actors in charge of the territory are for the most part sector-based and linked to the skill of mitigating the hydraulic risk and protecting the landscape, while the use of fluvial and peri-fluvial areas is entirely lacking soft mobility planning instruments. On the contrary, local knowledge highlights a widespread positive attitude linked to the future image of the river. Recurrent suggestions linked to a natural and adventurous context and pleasant areas that evoke emotions, perhaps also thanks to the participatory path launched, can become the engine of a new community, a context for an interesting experimentation aimed at uniting and affirming the encounter. A desire for sharing, inclusion and play emerges in the imagination, together with a widespread attention to the management of the river itself.

However, various references to "technical" issues (monitoring, maintenance, works, etc.) related to environmental issues that are also conflicting: in particular, the cutting of riparian vegetation by the Reclamation Consortium was opposed by environmental and sport associations (Legambiente, Friends of Murlo, Terramare) as they consider it too invasive with respect to the local ecosystems. Moreover, local farmers and the Farmer Association express lots of concern about the localisation of flood retention basins that, if are conceived to protect the inhabited area from floods, on the other hand convey the flood to destroy their crops.

A joint reading of the narratives emerged in this first phase affirm a “holistic” vision of the river, capable of including not only management and maintenance activities, but also the enhancement of the territories and the possibility of learning and carrying out activities, respecting the characteristics of the landscapes and the natural elements.

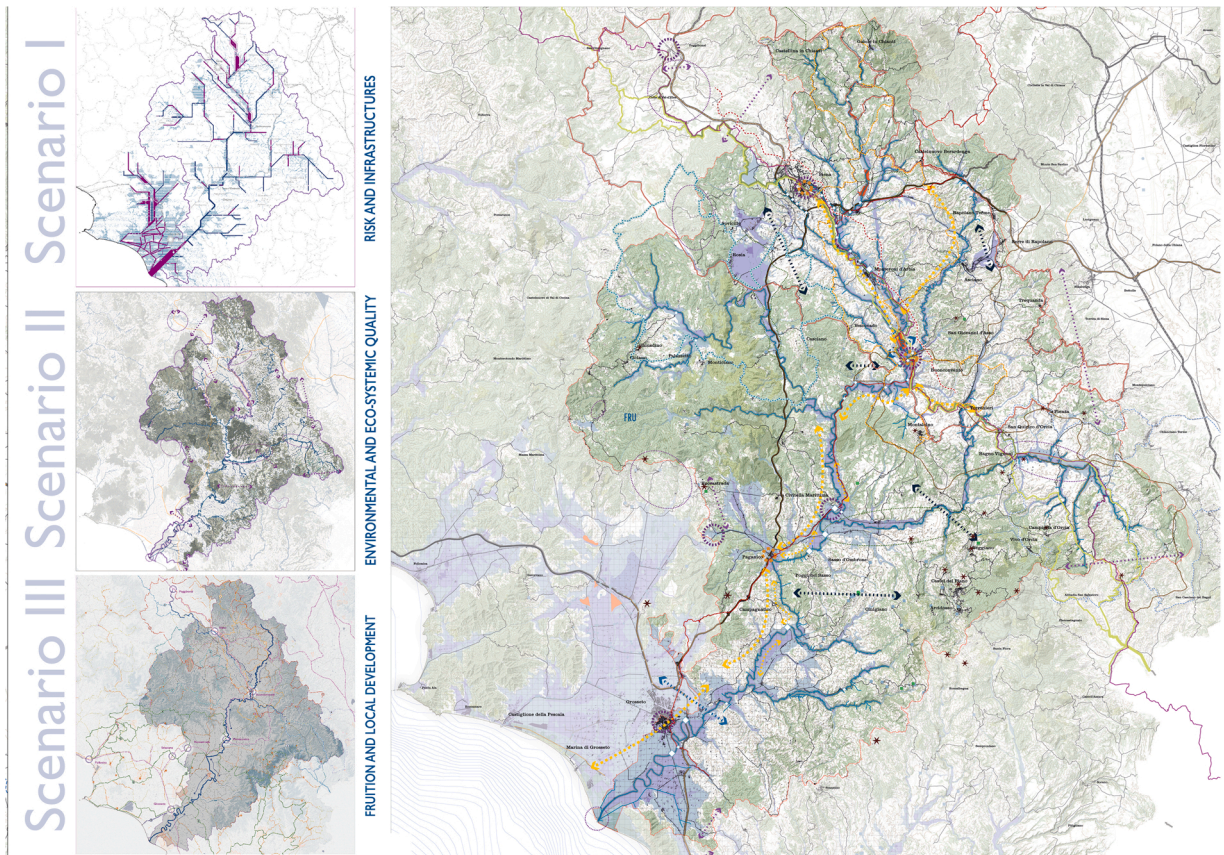


Fig. 1. The three scenarios and their systematisation in a vision for the Ombrone River Basin.

3.3. Phase 2. Discovery – reframing different expectations

The phase of reframing the different expectations has been approached by combining thematic workshops with the Regional Design (RD) approach, viewing visioning as an act of clarifying expectations through their visualisation. Referring to a large scale design (in this case, the river basin), Regional Design represents the third dimension of planning concepts: in respect to ‘analytical’ and ‘normative’ ones (Davoudi, 2003, 2018), RD is the process of clarifying the ‘argumentative’ or ‘discursive’ dimension of spatial planning, through which spatial representations assure the basis for the analytic process of the co-production of knowledge and, at the same time, attribute meaning to the definition of strategies and actions, through their spatial transposition (Balz & Zonneveld, 2015).

The discovery phase has been developed through a RD process in which narratives have been clarified through visioning techniques based on the "scenario construction", an anticipatory method aimed at forming a pre-vision of the future, investigated in both spatial planning research and anticipatory studies (Colombi & Zindato, 2019; Magnaghi, 2007). Through visualisations of hypothetical and opposing stories of the future, scenarios provide different answer to the question: “what would happen if.” (Secchi, 2003) for instructing the discussion about the future (Cavaliere, 2013; Viganò, 2010).

In the OSIAMO! participatory process, scenario construction has been chosen as a consistent methodology (Pisano & Lingua, 2019) to organise the various expectations that emerged in phase 1, as a problem setting device for first defining emerging issues and then placing them in a reciprocal relationship through Regional Design methodologies (Pisano & Lingua, 2021). During the thematic workshops held in this phase, participants were asked to work on narratives drawn onto maps that presented three and even partly divergent main scenarios concerning: risk and infrastructures, environmental and eco-systemic quality, and fruition and local development (Fig. 1). These three scenarios, which are even extreme (the contemporary flooding of the whole basin), merged different ways of conceiving the river and its future, expressed by groups of expert (mainly from institutional bodies in charge of sectoral management) and non-expert stakeholders with differentiated and even contrasting local interests, as showed in Table 2.

The recomposition of conflicting interest into the three visions opened the discussion between stakeholders used to different languages: the Vision 2 represented the shared achievement of the dedicated workshop, merging the engineering technical approach of the Reclamation Consortium vs the day-by-day onsite experience of environmental and sport associations working on the river, by providing on-site monitoring of the state of ecological networks. Vision 1 gave the possibility for the Farmers’ association to visualise the localisation of river rolling crates in relation to urban settlements and Vision 3 provided the visualisation of trekking path in relation to crops, in order to preserve them. This improved the awareness on the utility of flood retention basin for preserving the urban



Fig. 2. The definition of the masterplan of the fluvial park in Buonconvento workshop.

settlements and lead to the co-design of crops compatible with the presence of flood retention basin and trekking path using inter-poderal viability.

As the purpose of the River Contract is to foster a process in which different aspects can coexist and integrate, this quest for integration and convergence between the three themes expressed in the scenarios was approached locally through the use of the pilot



Fig. 3. Parish Map defined in the Cinigiano workshop.

projects methodology (Lydon, Garcia, & Duany, 2015; Sawhney, de Klerk, & Malhotra, 2015; Steiner, 2011). Pilot projects in Buonconvento and Cinigiano were conceived as instruments to visualise how planning and design decisions can be implemented through community engagement (Gehl studio, 2017). From macro to micro, the vast scale strategies have been tested in more detailed projects that have again informed the final river basin vision (Pisano & Lingua, 2019).

The products were different in the two contexts: the masterplan of the fluvial park in Buonconvento, a project constructed together with the participants of design workshops and aimed at improving the usability of the territory in a renewed relationship between the river and the urban centre (Fig. 2); a parish map of the trekking paths and bike routes and identity elements in Cinigiano (Fig. 3). In both cases the participants expressed their satisfaction with seeing the possibility of their ideas about the future being transposed and integrated with those of the other participants in a complex and integrated project.

3.4. Phase 3. Rethinking and choosing: definition of the Action Plan for the Ombrone River Agreement

In this phase, the visions defined in the previous one became operational. Through a strategic planning process aimed at defining goals, making choices and identifying actions, the different actors and groups of actors are required to both verify the preconditions and outcomes of the strategic scenarios and to question goals in explicit, actionable terms by defining policy objectives and actions to implement the strategies.

Six general objectives and twenty-two specific objectives emerged; the initial proposal to implement them can be found in 33 ideas/projects, some of which apply at Basin scale and others pertain more to local issues. This has been achieved by making the different ideas visible, which were defined through the previous planning activity scenario which sought to translate expectations about futures into action. These ideas were collected on "action cards" setting out the concepts and projects that each participant can implement directly, each with their own specificities and skills. Each actor, association and institutional body was asked to indicate not only the actions to be taken to implement the strategies set out in the plan, but also the direct undertakings to implement them in terms not only of financial resources but also by involving other actors, organising or participating in territorial animation, etc. This made it possible to also consider which actors should be involved in the RA to expand the partnership and involvement of the riverside populations.

This definition of the undertakings on the action cards made it possible to define the plan of action strategies of the RA as the outcome of a shared vision of the future of the river, in which all participating actors are required to taken on specific commitments in keeping with their expertise and roles in order to implement the proposed actions/interventions. Some of the RA actions will find exogenous resources through tenders, projects and specific financing. Other actions instead must be covered using the internal resources of each actor, setting out the degree of commitment, responsibility and sharing of the objectives and actions that contribute to the successful outcome of the Ombrone RA.

Now that the Ombrone RA is in the operative phase, work should be done to ensure the continuity and transferability of the experience, as well as to implement the actions. To this end, the Regional Design Lab organised thematic seminars with students from the Department of Architecture at the University of Florence and two Summer Schools (in 2019 and 2021) with students and researchers at Tuscan universities to publicise the project and disseminate its results. The Committee's events continued with territorial animation events and the implementation of a joint project between ReDLab and the Committee aimed at pursuing knowledge and activities to enhance the fluvial landscapes for young people and future generations, targeting schools in the riverside communities of the Ombrone valley.

Moreover, the masterplan for the fluvial park in Buonconvento had a twofold function: on the one hand, in the summer of 2018, it led to discussions between the Committee and the Region's transport and mobility sector, which proposed a new bridge on the Cassia road with a project that in fact disregarded many of the expectations of the citizens and children of Buonconvento, expressed in the masterplan drawn up as part of the OSIAMO! participatory process. As a result of these discussions, the Region abandoned this project and, together with the management body, came up with a new project that considers a plan compatible with the content of the masterplan. On the other hand, it represented the feasibility study useful to obtain the financing for its achievement. The same occurred for the paths identified by the Parish Map in Cinigiano, whose implementation, infrastructure (signage) and communication was made possible by regional funding for soft mobility.

This design activity, which is generated and arises in continuity with the participatory process, is tangible proof of the strength of an integrated strategic scenario which, through a vision of an integrated future, creates a system for pilot projects and the operating actions contained in the Action Plan through the framework of meaning of the Ombrone River Agreement, which is no longer a governance tool but also a projection to the shared future, through the activation of projects and financing that makes it ever closer and tangible.

The change in how the river is conceived, from a risk element to a *trait d'union* of territorial enhancement, landscape and social-economic policies, also emerges in narratives linked to projects and the arguments put forward by the various stakeholders at conferences held during and at the end of the participatory process. It reached its peak with the electoral campaign, which in 2019 saw the chairman of the committee become the Mayor of the Municipality of Buonconvento, using as a future horizon for the community the one defined as part of the participatory process and, as a consequence, already shared with the community.

4. Discussion: a reading of the case under FL lenses

The use of the interpretative framework proposed by Miller (2007, 2018) allows us to interpret the case study in terms of FL (Table 1), verifying the learning methods of the future established by participants during the path. With respect to the other cases analysed in literature (Aache, 2019; Miller, 2018) in this case too literacy for the future has been read in reference to groups of

stakeholders who, through the representatives of institutions and civil servants, expressed individual personal positions as well as positions shared with the associations and institutions they represent. The facilitators, working with the University and the practice community in the two pilot cases of Buonconvento and Cinigiano, were able to design and implement the OSIAMO! participatory process in ways that targeted the use of the future for a range of objectives, in particular as a way to change the river communities' perception of current situations.

Phase one of the path towards the Ombrone river agreement actually represents growing recognition of the existence of different ways of conceiving the future of the river. The participatory process takes hold with the maturation of the Committee, which through an expansion of knowledge about river management (deriving from contact with regional and provincial sectorial bodies in charge of governing it, facilitated by the active role of the University in involving them into conferences and meetings), develops the idea of embarking upon a path to construct a River Agreement in order to find a shared vision of the fluvial system, capable of overcoming a vision of the same as a risk element.

In this first phase, the awareness process received a considerable boost when the president of the committee changed: the leadership became stronger and a partnership was entered into with the Regional Design Lab, given the presence of the committee of researchers working on these subjects, which led to the definition of the participatory process and its joint funding by the Region and the University. The learning process used to "set the scene" and, in particular, the atlas of knowledge and the focus group held for the "listening phase" were highly effective at "developing the awareness that change happens over time, that people do harbour expectations and values, and that choices might matter" (Miller, 2007:348).

The use of keywords and the attempt to systematise the different positions according to expectations and readings of the present highlight, on the one hand, the need to expand the vision to the vast area (from a single individual context, in particular that of the two pilot cases, to the regional basin); on the other, the gaze of organisations and associations that pursue different aims and see the role of the river and its opportunities in a different way can expand ideas about the future, highlighting the possibilities for interaction and integration of the different expectations. The members of the associations that get involved in the process are in fact the stakeholders of different interests and put forward different points of view and expectations of the future linked not only to the hydraulic risk but also to the environmental enhancement of the banks, the use of the river and of the territory at local and regional scale. The Regional Design process initiated by the University has also made it possible to give prominence to these methods of interaction through map views and the integrated use of figurative storytelling methods.

In this phase the participants acquired "the kind of confidence needed to make decisions about the future" (Miller, 2007:348), gaining awareness of the need to take an alternative path, a drastic change of route to generate an important alternative of managing the fluvial environment where the perception of the river as a risk factor can be overcome in order to develop a new idea of a desirable future, and not only one that is possible or probable, but preferable (Miller, 2007:350), due to the integration of the expectations of the different stakeholders.

These expectations were grouped into three macro-groups that generated the scenarios in phase 2, discussed in the dedicated thematic workshops. The collective reflection on the different ideas of the future was supported by graphic narratives of the possible scenarios developed by ReDLab, as well as an explanation of the strategies that can be implemented in concrete projects in the workshops held as part of the pilot project of Buonconvento and Cinigiano.

The task of the Committee and the other associations, together with the research group of the University of Florence, was to reconstruct an overall vision of the river and its basin, aimed at (re)constructing a sense of belonging to the riverside community, and defining three intervention scenarios on matters concerning risk and infrastructures, environmental and eco-systemic quality, usability and local development. The F2 process therefore defined the River Agreement as a process of narration and visioning of a different possible future, more integrated and interconnected, made of a multitude of aspects and broken down into drawn narratives.

Following a transcalar methodology (Voghera & Ingaramo, 2016), the scale of the work, from the analysis to the project, followed an oscillating trend from the large scale of the "scenario construction" up to the scale of the detailed projects of the "case studies", followed by an evaluation of the results for the entire river basin and the definition of the parish map (in Cinigiano) and the masterplan for a River Park (Buonconvento), as a visual product of the image of the future produced and shared by the community as part of the participatory process. As a result, the local reality became the starting point for a process that links different scales of action and operating methods.

Finally, phase 3 FL represents the moment when the plan of action for the River Agreement becomes the instrument that produces a concrete narrative of a shared future: as part of a collective general vision, the Action Plan for the Ombrone RA "provides the link to action" (Miller, 2007: 356). The process has shown that in F1 and F2, at narrative and metaphoric level, there was a real rethinking of the present role and future opportunities offered by the river, which led to the choice of a route towards a different and multi-faceted future. Having chosen the direction and strategic guidelines, the local actions were outlined and set within the general framework.

The contribution of FL in the case study lies on two main achievements: the transformation in perceptions of the river from risk to opportunity, and the setting of a "bigger picture" in which all the different actors can appreciate their contribution, even at the local level, in the frame of a wider vision of the entire river basin.

Within the RA framework, the final vision integrating the 3 main issues has provided (despite narrow sectorial interests) to overcome localisms and sectorialisms and to give momentum to all the priorities, matching the initial claim for risk management to the issues of environmental threat and socio-economic, cultural and touristic enhancement of the river.

As a matter of facts, the path highlights two main changes to the anticipatory assumptions of the participants in reference to the narratives linked to the river and the reference scale. The participatory process led participants to develop a greater awareness of the anticipatory assumptions underlying people's imaginary futures: in this sense, the learning process related to Futures Literacy has started and can be seen in both the changes to narratives within discourses about the river (from risk to opportunity) and concerning its

desirable futures (from risk management to valorisation and accessibility, river parks, agrifood planning). The participants shared the hope that it would be enhanced for socio-economic, touristic and agricultural development, and local university students involved in the ReDLab summer school underlined the effort to embark on the FL process: “this workshop hurts us because... it gives us hope for a better future!” (C.M.).

The application of the Regional Design method proposed by ReDLab also resulted in an important change in scale of the spatial imaginary of the river and its future, providing an understanding of the interconnection between strategic actions at the scale of the fluvial basin and those at local scale, as pieces of narration at territorial level. This emerged both in the policies adopted by the municipalities of Buonconvento and Cinigiano, which obtained funding to achieve them thanks to this transcalar concept of the actions included within the framework of the Action Plan, and in the change of narrative that occurred in discussions with local leaders, in particular the president of the Committee who in 2019 was elected Mayor of Buonconvento, becoming the bearer of a collective vision of the future.

5. Conclusion: perspectives for further research and action

Spatial planning literature usually reads the outputs and efficacy of participatory processes in terms of the enhancement and durability of the governance system, the empowerment of the community, the operability of strategies and action in the implementation phase of the strategic plan. Even the performance of regional design is assessed in terms of the capacity to define shared policies and strategies through their visualisation and, therefore, the capacity to make the region of reference visible and to enhance the envisioning of its future. The capacity to anticipate the future, as the mission of the spatial planning discipline, is taken for granted.

The premise of this contribution was to read the capacity to use-the-future in terms of Futures Literacy, considering the process of prefiguring the future as a collective learning process. On the basis of these premises, the case of the OSIAMO! participatory process to define the Ombrone RA represents an interesting case of community learning which has transformed the river into an element of value and to identify the RA as the operating tool for the construction of a new future based on a shared vision in which the different expectations of the participants have been systematised within a single framework. In view of this, the University made a specific contribution not only in terms of the construction of a framework of sectoral knowledge but above all in accompanying the facilitators during the participatory process, designed as a process of interaction between narratives and maps.

In reference to the actors involved in the process, the reading of this process in terms of FL highlights two main changes. Firstly, the perception of the river from a resource to an opportunity, understood by the different stakeholders in a variety of ways (development of tourism, biodiversity, accessible space for playing), and secondly, on the reference scale: the change of narratives, in both the press and public discourse (at conferences and meetings and in the 2019 electoral campaign) highlighted an actual expansion of the spatial imaginaries, in which the local context is part of the larger fluvial basin and the regeneration and development strategies are part of a broader framework guided by the shared vision of the river agreement. Given that one of the objectives of the participatory process was to build a “riverside community”, this change in spatial imaginaries provides perspectives concerning actions related to territorial animation and the operationalisation of the Action Plan through activities pursuing interaction between the regional and the local scale.

In particular, tension can be introduced into Futures Literacy studies by referring to the role that the University can play in these processes. Within the Ombrone RA, the University was not understood as an agent that dispenses learning, a subject that “teaches” anticipation methods and techniques, but was a subject that actively encouraged different and new methods of learning about the use-of-the-future (Votruba, 1992). In this sense, rather than referring to the consolidated functions of the university (teaching and research), further research should refer to the role of the “civic university” (Goddard, 2009; Goddard et al., 2016) in proposing an approach and a methodology for using-the-future concerned with visioning. From this point of view, the university is not only concerned with teaching, but can learn and engage to provide learning to the whole community and, on the other hand, the community is engaged with collective learning and shared knowledge about the image of its city and, as in this case, at a “larger than local” scale.

As regards the “civic” university, this reading also opens up interesting prospects of research and action on the construction and diffusion of spatial imaginaries concerning the present and future of our cities and territories (Goddard & Vallance, 2013). In effect, implicit in much of spatial planning research is the idea that spatial representations of actual and future spaces and places in different forms (from maps to ideograms to metaphors) are representative of collective spatial imaginaries. Also literature on the role of visualisation and visioning in spatial planning takes for granted the capacity of images to intercept such imaginaries and use them as institution builders (Neuman, 1998). Nevertheless, a reflection on the contribution of “future thinking” to the construction of spatial imaginaries is still lacking. Emphasis is placed on the role that spatial imaginaries play in governance rescaling processes (Haughton & Allmendinger, 2015; Hincks et al., 2017) in developing a ‘brand’ that is outside the existing political and territorial imaginaries (Baker & Ruming, 2015; Sykes & Shaw, 2018). Moreover, spatial imaginaries are subject to processes of creation and even destruction: they can be replaced by a new imaginary that has gained primacy in the meantime and, in some cases, they can later be re-appropriated and reenergized, even in transfigured forms (Geppert, 2015). Within this temporal layering of different spatial imaginaries, each one reflecting various political, economic, social or cultural logics, and having particular semiotic and extra-semiotic characteristics (Jessop, 2012; Sum & Jessop, 2013), the interplay between past and current imaginaries may in turn mean that seemingly distinctive contemporary regional initiatives in fact embody lessons learned from previous initiatives (Hincks, Deas, & Haughton, 2017).

This reading of the “evolution” or “involution” of competing and “winning vs losing” spatial imaginaries highlights how, in order to gain traction, spatial imaginaries need to compete with previous and parallel imaginaries, including those of territorial government or other soft spaces originating from other stakeholder partnerships and agreements (Haughton & Allmendinger, 2015).

Reading these changes of spatial imaginaries in terms of Futures Literacy can cover this lack of methodological and empirical

research, by showing how different and competing imaginaries, related to multiple sites and scales, create momentum by being institutionalised and translated into tangible strategies, practices or projects that last over time and concern territorial identities.

References

- Aache, P. (2019). Vision making in large urban settings: Unleashing anticipation? In R. Poli (Ed.), *Handbook of anticipation. theoretical and applied aspects of the use of future in decision making* (pp. 1327–1348). Springer.
- Affeltranger, B., & Lasserre, F. (2003). La gestion par bassin versant: du principe écologique à la contrainte politique – le cas du Mékong, in *Vertigo. La revue électronique en sciences de l'environnement*, 14(3). (<https://vertigo.revues.org/3715>) (last access 20.06.2020).
- Albrechts, L. (2004). Strategic (spatial) planning reexamined. *Environment and Planning B*, 31, 743–758.
- Allmendinger, P., & Haughton, G. (2010). Spatial planning, devolution, and new planning spaces. *Environment and Planning C: Government and Policy*, 28, 803–818.
- Almirall, E., Lee, M., & Wareham, J. (2012). Mapping living labs in the landscape of innovation methodologies. *Technology Innovation Management Review*, 2, 12–18.
- Argyris, & Schön. (1978). *Organizational learning: A theory of action per spenti e*. Reading, MA: addison - welsey publishing company.
- Baker, T., & Ruming, K. (2015). Making 'global sydney': Spatial imaginaries, worlding and strategic plans. *International Journal of Urban and Regional Research*, 39(1), 62–78.
- Balz, V. E., & Zonneveld, W. A. M. (2015). Regional design in the context of fragmented territorial governance: South wing studio. *European Planning Studies*, 23(5), 871–891.
- Carter, N. (2007). The politics of the environment. *Ideas, activism, policy*. Cambridge University.
- Cavaliere, C. (2013). Sinking Lands. Mapping spatial paradigms in the Veneto Region. In V. Bandieramonte, C. Cavaliere, I. Guida, K. Rashidzadeh (a cura di). *The next Urban question*. Venezia: Officina edizioni.
- Colombi, C., & Zindato, D. (2019). Design scenarios and anticipation. In R. Poli (Ed.), *Handbook of anticipation*. Cham: Springer. https://doi.org/10.1007/978-3-319-91554-8_52.
- Davoudi, S. (2003). European briefing: Polycentricity in European spatial planning – From an analytical tool to a normative agenda. *European Planning Studies*, 11, 979–999.
- Davoudi, S. (2018). Policy and practice spatial imaginaries: Tyrannies or transformations? *The Town Planning Review*, 89(2), 97–124.
- Dewey, J. (1938). *Education and experience*. New York: Macmillan.
- Dewey, J. (1997). *How we think*. Buffalo, New York: Prometheus Books.
- Eckerberg, K., & Joas, M. (2004). Multi-level environmental governance: A concept under stress? *Local Environment: The International Journal of Justice and Sustainability*, 9(5), 405–412.
- Ehresmann, A., Tuomi, I., Miller, R., Béjean, M., & Vanbremeersch, J. P. (2018). Towards a formal framework for describing collective intelligence knowledge creation processes that 'use-the-future'. In R. Miller (Ed.), *Transforming the future... (cit)* (pp. 66–91).
- Friedman, J. (1979). *The good society*. MIT Press.
- Gehl studio (2017). *Planning by doing. How small, citizen-powered projects inform large planning decisions*. San Francisco: on line report (https://gehlstudio.org/wp-content/uploads/2017/02/20160301_Planning-by-Doing_print-1.pdf). (Accessed 05 2019).
- Geppert, A. (2015). The sillon lorrain (Nancy, Metz, Epinal, Thionville). In P. Allmendinger, G. Haughton, J. Knieling, & F. Othengrafen (Eds.), *Soft spaces: Re-negotiating governance, boundaries and borders*. London: Routledge.
- Goddard, J. (2009). *Reinventing the civic university*. London: NESTA.
- Goddard, J., Hazelkorn, E., Kempton, L., & Vallance, P. (Eds.). (2016). *The civic university. The policy and leadership challenges*. Cheltenham, UK: Edward Elgar Publishing.
- Goddard, J., & Vallance, P. (2013). *The university and the city*. Abingdon: Routledge.
- Grim, T. (2009). Foresight maturity model (FMM): Achieving best practices in the foresight field. *Journal of Futures Studies*, 13(4), 69–80.
- Haughton, G., & Allmendinger, P. (2015). Fluid spatial imaginaries: Evolving estuarial city-region spaces. *International Journal of Urban and Regional Research*, 39(5), 857–873.
- Healey, P. (2007). Urban complexity and spatial strategies. *Towards a relational planning for our times*. London: Routledge.
- Hincks, S., Deas, I., & Haughton, G. (2017). Real geographies, real economies and soft spatial imaginaries: Creating a 'more than Manchester' region. *International Journal of Urban and Regional Research*, 41(4), 642–657.
- Ingaramo, R., & Voghera, A. (2016). Topics and methods for urban and landscape design. *From the river to the project*. Cham: Springer Nature.
- Jessop, B. (2012). Economic and ecological crises: green new deals and no-growth economies. *Development*, 55(1), 17–24.
- Lingua, V., & Balz, V. E. (2020). Shaping regional futures. *Designing and visioning in governance rescaling*. Springer Nature.
- Lydon, M., Garcia, A., & Duany, A. (2015). *Tactical urbanism: Short-term action for long-term change*. Washington: Island Press.
- Magnaghi, A. (Ed.). (2007). *Scenari strategici. Visioni identitarie per il progetto di territorio*. Firenze: Alinea.
- Magnaghi, A. (2011). Scenari strategici. In M. Bastiani (Ed.), *Contratti di fiume: pianificazione strategica e partecipata dei bacini idrografici*. Palermo: Dario Flaccovio Editore.
- Miller, R. (2007). Futures literacy: A hybrid strategic scenario method. *Futures: The Journal of Policy, Planning and Future Studies*, 39, 341–362.
- Miller, R. (2018). *Transforming the future. Anticipation in the 21st century*. New York: Routledge.
- Neuman, M. (1998). Planning, governing, and the image of the city. *Journal of Planning Education and Research*, 18(1), 61–71.
- Pearce, J. (2003). *Social enterprise in anytown*. London: Calouste Gulbenkian Foundation.
- Pisano, C., Lingua, V. (2019). The Ombrone river contract: A regional design practice for empowering river communities and envisioning basin futures. In C. Gargiulo, C. Zoppi, editors. *Planning, nature and ecosystem services, INPUT aCADemy 2019, conference proceedings*. Napoli: FedOAPress. (<http://www.tema.unina.it/index.php/tema/INPUT2019/>), (last access 20.06.2020).
- Pisano, C., Lingua, V. (2021). *The impact of regional design on river agreements: The case of the Ombrone River in Tuscany, planning practice & research* (pp. 1–22). ahead-of-print. (<https://www.tandfonline.com/doi/full/10.1080/02697459.2021.2005870>), (Last access 12.01.2022).
- Raymond, L. (1999). Urbanistica partecipata, il dialogo fra le generazioni. Bambini, ragazzi ed adulti all'interno dei processi per la formazione delle decisioni. In M. Vercesi, a cura di. *Milano: Il Quartiere Adriano - gli Abitanti "progettano" la Città*, Ist. Ecopolis, Franco Angeli, Milano.
- Saija (2012). *La Città educativa. Riflessioni sulla funzione pedagogica dell'urbanistica*. Acireale, Roma: Bonanno.
- Saija, L. (2016). *La ricerca-azione in pianificazione territoriale e urbanistica*. Milano: FrancoAngeli.
- Salewski, C. (2012). *Dutch new worlds: Scenarios in physical planning and design in the Netherlands* (pp. 1970–2000). Rotterdam: 010 Publishers.
- Sawhney, N., de Klerk, C., & Malhotra, S. (2015). Civic engagement through DIY urbanism and collective networked action. *Planning Practice & Research*, 30(3), 337–354.
- Schön, D. (1987). *Educating the reflective practitioner*. San Francisco: published by Jossey-Bass (ISBN 1-55542-220-9).
- Secchi, B. (2003). Projects, visions, scenarios. *Planum The Journal of Urbanism*, 2, 7.
- Sillitoe, P. (2006). Ethnobiology and applied anthropology: Rapprochement of the academic with the practical. *Journal of the Royal Anthropology Institute*, 12(1), 119–142.
- Steiner, F. (2011). Landscape ecological urbanism: Origins and trajectories. *Landscape and Urban Planning*, 100(4), 333–337.
- Sum, N. L., & Jessop, B. (2013). *Towards a cultural political economy: Putting culture in its place in political economy*. Cheltenham: Edward Elgar.
- Sykes, O., & Shaw, D. (2018). Unpacking the spatial imaginaries of 'one belt, one road': From representation to performativity. *Town Planning Review*, 89(2), 120–124.
- Valerio, M. (2019). The role of mindsets and attitudes in determining future awareness. In R. Poli, & M. Valerio (Eds.), *Anticipation, agency and complexity* (pp. 11–36). Springer.

- Viganò, P. (2010). *Territorio dell'urbanistica. Il progetto come produttore di conoscenza*. Roma: Officina.
- Voghera, A. (2020). The River agreement in Italy. Resilient planning for the co-evolution of communities and landscapes. *Land Use Policy*, 91.
- Votruba, J. C. (1992). Promoting the extension of knowledge in service to society. *Metropolitan Universities*, 3(3), 72–80.
- Balz, V. E., & Zonneveld, W. (2018). Transformations of Planning Rationales: Changing Spaces for Governance in Recent Dutch National Planning. *Planning Theory & Practice*, 19(3), 363–384.
- Ogilvy, J. (2002). 'Futures Studies and the Human Sciences: The Case for Normative Scenarios'. In R. A. Slaughter (Ed.), *New Thinking for a New Millennium: The Knowledge Base of Futures Studies*. (pp. 26–83). New York: Routledge.