
Conclusions

Augusto Cusinato and Andreas Philippopoulos-Mihalopoulos

Abstract

This book's aim is to provide a fresh insight on the knowledge economy and its driving forces. The book has demonstrated that there is a widening discrepancy between the way mainstream economics understands the relationships between knowledge and creativity, and the step(s) a typical enterprise exposed to the global market is taking to deal with them. Whilst mainstream economics continues to cling firmly to a logical-positivist notion of knowledge, enterprise is experiencing a hermeneutic turn under the pressure to provide ceaseless innovation in an increasingly competitive market. From being the alleged champion of modernity, enterprise is, somewhat surprisingly, becoming the laboratory inside which this cognitive turn is finally entering *the social fabric*, after being long confined to the philosophical, aesthetical and literary debate. The time thus seems to have come to scrutinise the above-mentioned discrepancy: how it has arisen, what consequences follow in the theoretical and the applied domains, and on what conditions it can eventually be overcome. This is the rationale on which this book is based.

This book's aim is to provide a fresh insight on the knowledge economy and its driving forces. The book has demonstrated that there is a widening discrepancy between the way mainstream economics understands the relationships between knowledge and creativity, and the step(s) a typical enterprise exposed to the global market is taking to deal with them. Whilst mainstream economics continues to cling

A. Cusinato (✉)

Department of Design and Planning in Complex Environments, Università Iuav, Venezia, Italy
e-mail: augusto.cusinato@iuav.it

A. Philippopoulos-Mihalopoulos

Westminster Law School, University of Westminster, London, UK
e-mail: andreaspm@westminster.ac.uk

© Springer-Verlag Berlin Heidelberg 2016

A. Cusinato, A. Philippopoulos-Mihalopoulos (eds.), *Knowledge-creating Milieus in Europe*, DOI 10.1007/978-3-642-45173-7_15

firmly to a logical-positivist notion of knowledge, enterprise is experiencing a hermeneutic turn under the pressure to provide ceaseless innovation in an increasingly competitive market. From being the alleged champion of modernity, enterprise is, somewhat surprisingly, becoming the laboratory inside which this cognitive turn is finally entering *the social fabric*, after being long confined to the philosophical, aesthetical and literary debate. The time thus seems to have come to scrutinise the above-mentioned discrepancy: how it has arisen, what consequences follow in the theoretical and the applied domains, and on what conditions it can eventually be overcome. This is the rationale on which this book is based.

These concluding pages are devoted to offering a provisional assessment of such an approach with respect, first, to the ongoing theoretical debate and observable facts and, second, with respect to its explanatory power, its interdisciplinary potential, and its ability to help in practice. Assessments are carried out on four levels: the *epistemological level*, which is concerned with how beliefs and especially pitfalls form in the way(s) we (the authors, in this connection) look at 'reality'; the *heuristic level*, which pertains to the internal consistency and explicative power of theories concerning how 'reality' works; the *methodological level*, which deals with procedures to assess the reliability of those theories and, finally, the *normative level*, on which theoretical developments are applied on policy level.

1 Assessments on the Epistemological Level

On the first level of analysis, we have asserted that the widening discrepancy between the ways mainstream economics on the one hand, and enterprise on the other, look at knowledge and creativity, is ascribable to the epistemological status of economics itself. Aiming to accomplish the emancipation that economic conduct had achieved from any form of moral and/or political tie, the founders of neoclassical economics deliberately left aside the classical 'political economy' in order to free it from any residual historical contingency, and finally enable it to gain 'scientific' status, according to the logical-positivist idea of science. No longer being compelled, as classical economists were, to open any economic treatise with a dissertation on both the cause of value and the structure of the social formation under examination, neoclassical economists took recourse to what seemed (and still seems) to be an unvarying feature in any situation of limited resources with alternative uses: the rationale of conditioned optimisation. In that way, they believed they were establishing not only the *physics* of the rational choice but, through the transposition of the Newtonian Mechanism from nature to society, also *the physics of society* as a whole. This essentially meant to deny any room to phenomena (and related notions) which transcend the mechanical aggregation of individual behaviours, and to place de facto economics outside the domain of social sciences, with which it maintains only nominal ties (Löwe, 2013; Swedberg, 1990).

The situation has not substantially changed with the rise of an evolutionary approach within economics, and the shift it entails from physics to biology as the reference model. Although evolutionism looks into the changes occurring in individual inner properties (a topic which remained extraneous to traditional neoclassical thought), the process by which changes occur remains a black box: successful change (i.e. innovation) is viewed as the outcome of a natural (market-driven) process of selection among a randomly generated set of possible changes. It is time therefore to open that black box in order to ascertain what processes are actually at work in triggering evolutionary paths when intelligent agents are involved: i.e. processes which are not random, but learning ones, which work according to certain recognisable or conceivable—and therefore governable—rules.

In this connection, the book's message is that (a) such a block within mainstream economics depends on the divide which positivism, firstly, and logical-positivism later, established between the explorative and the testing phases within the scientific process; (b) this divide is epistemologically unfounded, in that it neglects a pivotal parameter: tests suffer the same blind spots or misrepresentations that characterise pre-analytical visions, that the logical-empirical method claims to be able to avoid or to overcome (see Garbolino, in this book) and (c) the divide is also a hindrance to entering analytically the core of the creative process, thus seriously limiting possibilities to govern it (in the sense of 'governance'). Reconciling the ideational and the testing sides would not only respond to the criticism that post-modern thought has put forward since about the beginning of the last century, but would also fit with the shift now occurring within enterprise strategies from the material/innovative to the ideational/creative concern.

Such a reconciliation is possible, and is also consistent with the aim of building suitable/"satisficing"¹ representations of the present-day economic affairs, on condition that economic theory also gets in touch, at last, with the hermeneutic turn which is gaining ground in the social sciences, and also organisational studies. In order to make the governance of creative processes possible, this book has taken a gamble on the expediency of integrating the interpretative/hermeneutic turn within economic thought, precisely through seizing upon the extant original join between knowledge and entrepreneurial praxes.

The real question at stake is not whether the book has won the bet, because this would mean falling again into the trap of believing that a last word on these affairs is possible, but whether it has placed a good bet. The tentative answer can only come after an assessment of the heuristic, methodological and normative levels: if a hermeneutic approach provides economic theory with finer and more consistent analytical tools than the conventional approach and, at the same time, endows action with more effective practical tools, then the book has taken a promising track. Let us then address these levels.

¹ The neologism is drawn from Simon, (1956).

2 Assessments on the Heuristic Level

The first achievement of the book we hold to be of some relevance on the heuristic level is that of having drawn certain notions (which recur in the economic discourse and, especially, in regional science) out of the metaphorical realm by endowing them with analytical content. The first notion is ‘*atmosphere*’ (see Philippopoulos-Mihalopoulos’s and Cusinato’s contributions). ‘*Atmosphere*’ is a term Marshall repeatedly mentioned to point to “something being in the air” which yields place-specific collective advantages. In that context, the term maintained a metaphorical sense because, apart from some insights Marshall offered into its referential content, an aura of the ineffable has remained about it. By admitting that knowledge essentially consists in ‘having experience of’ rather than collecting-and-processing information, it has become possible to give such aura an expressible content and to render it an essential component within the triad space-knowledge-creativity. ‘Having experience of’—the line of reasoning was—entails, first, exposing the Self to irreversible change, which requires that the subject is willing to ‘move irreversibly from’ what s/he was hitherto and, secondly, inhabiting a new condition and participating intimately in its rhythm. This move becomes possible only if the Self can rely on the belief that, after moving from her/himself, s/he can ideally find her/himself again through the net of symbolic relationships s/he already enjoys (and on which her/his identity hinges). ‘*Atmosphere*’, in this context, means a field of collective and shared affects, which allows the cognitive experience to turn into creativity. Finally, to give atmosphere relative solidity and make it publicly recognisable—in a few words, to institutionalise it as a local common good, in the sense Marshall gave to the term—communities fix it symbolically on the most steady physical-and-public item they have at their disposal, namely the physical space of belonging—territory—, thus turning atmosphere into landscape/*paysage* (see Cusinato).

To sum up the steps: knowledge entails the intervention of the emotional component; this component entails a shared field of affects (atmosphere); atmosphere needs a certain degree of solidity to become publicly recognisable and sharable; and landscape is the device humans have devised to make this possible. Through this evolution, atmosphere achieves an analytical status within the knowledge-creating process, and landscape becomes the operational device to interact with it: acting on the physical support of landscape entails intervening in the symbolic system the community concerned has fixed on it, and further on, touching collective and individual attitudes towards learning and creativity.

Implications on the normative side are easily imaginable, but we shall deal with them later. In the meantime, let us note that the fact that atmosphere and landscape matter in shaping knowledge-creating attitudes, is not enough to make them practically effective. Encouragement to explore unknown territories must be accompanied by a perception that there is something worth exploring. This leads to the second notion this volume has tried to endow with analytical content, namely the ‘*milieu*’. There has been no lack of efforts in this direction in recent decades, especially in regional science, but at least one element was lacking to free ‘*milieu*’

from indeterminacy. Scholars generally (though tacitly) agree with Durkheim on the idea that ‘heterogeneity’ and ‘relational density’ help a place to acquire generative power, and also in admitting that its ‘material substratum’ plays a role. The discourse, however, remains inconclusive in this last connection, with the result of jeopardising the analytical content of ‘milieu’. The cause of this persistent uncertain condition rests on an unachieved last step: the acknowledgement that space works within milieus through its symbolisation into landscape (with some scholars very close to it, such as Perrin, 2006[1995]). Landscape, milieu and atmosphere constitute the three elements necessary to build an analytical bridge between space and knowledge. In this book this outcome is to be found especially throughout the contributions to the first part²: from the vivid setting of that relationship by De Michelis, to the evocative and ethic-intensive contribution by Goldoni, to the applications Simone makes of both notions to the organisational scale and, finally, to the attempts of Philippopoulos-Mihalopoulos and Cusinato to provide this framework with analytical and operational content.

From the hermeneutic approach adopted, it has also become possible to assess issues of the *knowledge economy*. The positivist understanding of the term, according to which only measurable subjects matter, is simply a knowledge-intensive based economy. Taking our cue from previous attempts in the literature, which aim to shift the focus from a quantitative to a qualitative approach, this volume maintains that the decisive point in taking a qualitative approach to the knowledge economy does not simply consist in moving from a solipsistic to a relational viewpoint on knowledge (as *Mode 1/Mode 2* does), but in investigating the different kinds of *learning* which come into play within those viewpoints. It is one thing that a group of observers, endowed with different competencies and also interests should discuss the various images they form of a certain ‘object’, assuming that those images really mirror the object although from different perspectives; and quite a different thing that they should investigate the premises that lead them to form different images about that same referential entity. In the first case, the observers’ mental, affective, corporeal and other premises are not put explicitly into question, and the connected kind of learning can be labelled as ‘relational *L2*’ (i.e. *Mode 2*). In the second case *L3* practices come into play, entailing shifts both in the subject of the knowledge and, crucially, the way of knowing it. The subject shifts from the ‘entity’ which is assumed to lie externally to mind, towards the observers’ minds and especially their inescapable cognitive fallacies, while learning shifts from inquiring about the subject under examination towards exploring ways of learning in relation both to one’s own and the others’ cognitive attitudes. The hypothesis this anthology has consistently put forward is that the knowledge economy is ultimately characterised by the increasing recourse enterprise and industry at large make to *L3* practices in order to cope more successfully with the rising urge to shape creative processes.

² With the exception of Garbolino, whose contribution was intentionally devoted to outlining a preliminary epistemological framework.

Before passing onto the methodological level, we should note that the most radical question arising from the above discussion concerns the suitability of economics (also in its evolutionary version) to deal with generative processes, since the intimate pragmatics of ‘the physics (or the *bio-logics*) of society’ hinders them from coping with ‘un-measurable’ entities, such as those belonging to the emotional and the symbolic domains. We shall encounter this issue again, when dealing with normative aspects.

3 Assessments on the Methodological Level

Methodological issues build a bridge between the theoretical and the empirical domains. Two main notions have been established to make the above theoretical framework suitable for both theoretical and applied practices. First, a milieu is not an observable entity. Because of atmosphere, landscape, and social relationships at large, the presence of milieu can only be indirectly inferred by recourse to cues and indicators. The way the book has pursued this aim is to start from certain observable phenomena or symptoms concerning the supposed working of a generative socio-spatial device (such as Cozza’s VEGA Park case, and the organisational claim of fostering innovative attitudes), or the presence of the three canonical conditions that make a socio-spatial entity to work as a milieu at the various scales considered: volume/heterogeneity, relational density and space/landscape. With relation to the specific subject of this book—investigation of the socio-spatial conditions of creativity—the notion of milieu as a generative device of ‘social facts’, has been incorporated into the notion of “Knowledge-creating milieu—KCM”, a formula which simultaneously conveys (a) the idea that structural elements are at work in generating social facts, (b) the idea that individual learning attitudes depend on specific social assets like territory, place, atmosphere and landscape and, finally, (c) the focus on knowledge-creation, as the real premise for creativity. A connected methodological suggestion is that KCMs work differently according to scale. Whereas in their elementary form, namely the dialogical context, artificial elements prevail, at the other extreme, namely, the city, social/‘natural’ elements dominate the scene; and whilst in the first condition, interaction essentially happens through reciprocation, in the second it normally occurs through competition, with imaginable implications for policies in the two circumstances.

The second bridging notion is “Knowledge-creating Services—KCS”, which is related here to the assumed hermeneutic stance. KCS are services devoted to dealing with cognitive codes and mental habits, by reshaping them and thus creating knowledge at the *L3* level along with related conditions for creativity governance. KCS lie at the very core of urban and regional KCMs, and interact among them and with industry in fostering creativity and also innovation *sensu stricto*. This happens to such an extent that it becomes relevant to consider a fourth helix to the *Triple Helix* model that Etzkowitz & Leydesdorff (2000) set up in order to provide the then emerging relational approach to knowledge—‘*Mode 2*’—with an analytical basis. Such a helix would not be placed into the civil society as, for

example Carayannis and Campbell (2012) do, but within this dust-like, rapidly evolving system of knowledge-intensive activities working at the intersection between *L2* and *L3* practices.

The heuristic power of these notions can only be assessed in comparison with similar notions of Knowledge Intensive Services, and mainly KIBS, which is the most widespread one in literature, with reference to their capacity to outline stylised facts, shed light on new relevant aspects and drive action. The French case study (Paulus & Vacchiani-Marcuzzo) has shown that KCS at large are a peculiar urban phenomenon and that cumulative urban economies are central in the sector. The corresponding share of employees is superlinearly related to city size, especially as regards private KCS. Unlike them, public KCS locations are clearly affected by more policy-driven than market-driven rationales, though a similar, albeit weaker correlation between KCS density and city size can also be observed.

Comparison of case studies on the metropolitan and the urban levels corroborate these outcomes (Table 1 and Fig. 1). Focusing on the core urban area (which is defined by the city administrative limit), a high positive correlation can be seen between city size and KCS spatial density, with r^2 equal to 0.95 and 0.92 and b equal to 0.70 and 0.62 on the logarithmic scales, as regards respectively Total KCS and Private-core KCS³.

The same case studies show finer results however, making it possible to assess the weight of urban agglomeration economies. They prove that Private-core KCS in particular compete strongly for central locations: the ratio between Private-core KCS and Total KCS entities rises exponentially with the core-city size, which points to their strict connection with cumulative urban economies (Fig. 2).

The Greater Munich (Mazzoleni & Pechmann) and the Paris Metropolitan Region—PMR (Compagnucci) case studies also show that KCS location patterns depend on their specific knowledge base. As regards the Greater Munich area, besides the overwhelming centripetal role played by the inner city, a system of KCS clusters is observable in the wider metropolitan area, located beside/within clusters of high-tech or creative industry activities, thus confirming that Marshallian agglomeration economies are importantly at work as well as urban ones. More specifically, the partition Compagnucci introduces within KCS according to their different knowledge base, enables him to shed light on how different classes of KCS follow different location patterns in the PMR: the analytical knowledge-based KCS tend to cluster spatially near high-tech industry; the synthetic knowledge-based KCS are more susceptible to traditional manufacture location, while the symbolic knowledge-based KCS show a marked preference for central urban locations. These outcomes, which also entail important consequences on the normative level, are dealt with in the following section.

³The Munich case is not comparable, due to different criteria of collecting data.

Table 1 Spatial density of KCS entities in the case-studies examined

Area	Year	Population	KCS entities		sq. Km area	KCS spatial density		b/a
			Total (a)	Private-core (b)		Total	Private-core	
Paris core city	2008	2,233,818	120,271	99,283	105.25	1142.72	943.31	0.83
<i>Paris Zone d'emploi</i>	2008	5,851,493	173,740	140,582	551.51	315.03	254.90	0.81
<i>Paris Metropolitan Region</i>	2008	12,038,267	228,503	177,731	14,191.03	16.10	12.52	0.78
Milan core city	2001	1,256,211	58,088	34,571	182.07	319.04	189.88	0.60
<i>Milan Province</i>	2001	3,707,210	92,066	50,441	1,984.39	46.40	25.42	0.55
Poznań core city	2009	554,221	17,900	9,811	261.91	68.34	37.46	0.55
<i>Poznań Metropolitan Region</i>	2009	873,479	23,488	12,605	2,161.90	10.85	5.83	0.54
Pécs core city	2013	152,459	5,213	2,832	162.61	32.06	17.42	0.54
<i>Pécs province</i>	2013	180,138	6,992	4,120	623.07	11.22	6.61	0.59

Fig. 1 KCS spatial density with rapport to core-cities population

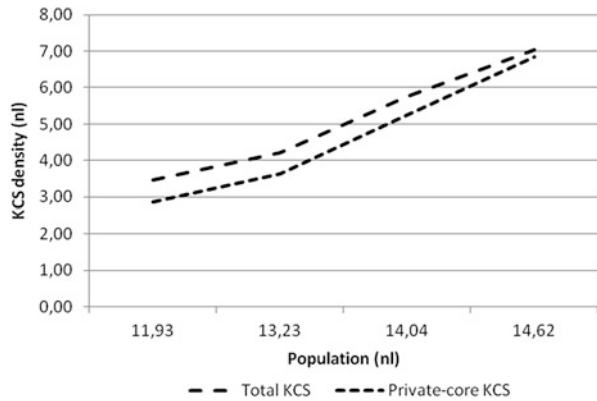
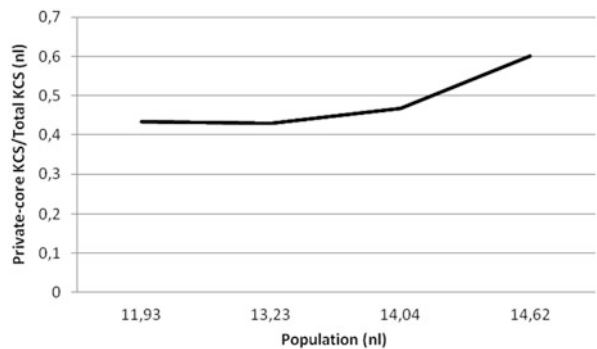


Fig. 2 Shares of Private-core KCS in relation to Total KCS entities in the core-cities examined



4 Assessments on the Normative Level

The assessments given above provide an adequate basis on which to think of policies at the various levels and scales we have examined. On the epistemological level (at which it is more appropriate to speak of ‘guiding principles’ than ‘policies’), the main issue concerns the obsolescence, not so much of the internal consistency and effectiveness of the logical-positivistic approach, but rather the clear-cut partition it establishes between the explorative-ideational and the validation phases, with respect to the strategic importance the first phase is now assuming *within enterprise* in response to the pressure for creativity governance. As a consequence, the concern for testing the reliability of assertions is destined increasingly to go together and to hybridise with freely conceived mental associations—i.e. abduction—which are the cradle for creativity. This does not entail any rejection of logical-positivism in favour of full adhesion to free associationism, but it does acknowledge that the time has come to question the former’s self-stated centrality if not absolutism. This ultimately entails an acknowledgement of the circularity occurring between the explorative and the confirmative stages within the

cognitive/creative process, and the role the emotional and the symbolic dimensions, along with their derivatives of atmosphere, landscape, place and milieu, play within it.

With regard to economic theory, the question that arises is whether *economics*, with its endowment of individualism, behaviourism and cognitivism, can cope appropriately with such a change of paradigm, and whether a ‘new political economy’⁴ (sporadic traces of which are recognisable within the current debate) could fit better, thanks to its capacity for taking un-measurable aspects (like, essentially, social relations) into consideration. The difference between the ‘old’ or ‘classical’ political economy and a possible ‘new’ one would concern the kind of social relations to be taken into consideration: not only ‘production relations’, but also subtler, plastic, symbolic and affective relations and associated notions (like atmosphere, place, landscape). These are important from a generative viewpoint: precisely the kind of matter that Marx confined to the domain of “superstructures”, with the air of superfluity if not ideology with which he endowed the term. Our suggestion is that a new political economy should be grounded on the idea (an idea, in any case!) that superstructures eventually become incorporated into the infrastructure in the course of social praxis,⁵ according to a sort of ‘pragmatic circle’. This subject matter, however, clearly exceeds this book’s aims.

On a more practical level, the main lesson is that the purpose of fostering creativity through creativity governance entails building suitable milieu conditions at various scales. Convenient degrees of heterogeneity, relational density and appropriate atmosphere, symbolically fixed in space through the ‘landscape operator’, are the ingredients for a knowledge-generative milieu to arise *in a certain place*. The ways of achieving and nurturing heterogeneity vary according to milieu scale. In the dialogical context, heterogeneity is produced by the (few) people involved. At the urban scale, it is a by-product (maybe the most astonishing by-product) of social interaction, while at the organisational scale it is a mix, mostly depending on the organisational size.

Not all kinds of heterogeneity are conducive to learning, however, but only the ones people experience as dissonance, namely potentially interpretable noise. Deliberate interventions to engender/shape heterogeneity within a certain milieu must therefore be fine-tuned according to the scale of the milieu and people’s interpretative (and not absorptive!) capacities. In general, heterogeneity can be nurtured by acting on the openness of the local system and/or on social volume, in a condition of proximity among stakeholders. Acting openly is possible at every milieu scale, but care is needed so that external stimuli can be interpreted as dissonance rather than noise or shocks: competent ‘transducers’ must be at work at the milieu borders, to ensure that the energy coming from outside becomes quantitatively and qualitatively compatible with the internal ‘digestive’ structure

⁴ Where *pòlis* significantly means ‘many’ prior to ‘city’ and ‘politics’.

⁵ An issue which is (or was?) not extraneous within the neo-Marxist debate (cf. Godelier, 1978), and which might interestingly be exposed to the interpretative turn.

(see Camagni, in this book). Transducers are leading figures, such as the *hommes d'affaires* in the indigenous communities, or consultants, 'gatekeepers', institutions but also, we suggest among others, KIS/KCS in more advanced economies, to be considered both individually and as systems.

Unlike openness, acting on volume to foster heterogeneity is not normally possible within organisations, but only at a wider social level. At this level, since volume works together with density in fostering heterogeneity, a key lesson arises about the importance of clearly identifiable and structured urban milieus in relation to the surrounding 'countryside' and, symmetrically, the negative role of extreme urban sprawl as a source of cultural entropy. This is another way to maintain that 'the city matters'—as it has always mattered—as the main source of socio-cultural heterogenesis (cf. Hall, 1998; Andersson, 2011a, b, among others). Within the city, an important means of enhancing aptitudes for dealing with heterogeneity and especially for interpreting noise as dissonance is represented by exemplary interventions on the urban physical fabric, to show how new, interesting and inspiring solutions can take shape: this is the domain of arts, architecture, urban design and planning, which deserves far more attention from economics than currently occurring.

Interventions on the physical space which are intended to interact with the symbolical dimension call into play the issue of landscape. Like milieu, landscape is not an object which exists per se, but only the image-space deriving from the projection individuals and communities make of a certain symbolic universe on the surrounding physical space. Intervening on the latter with the aim of acting on the underlying emotional component (in order to mould creative attitudes, in our case) requires that 'place makers' (whether policy-makers, urban designers and planners, or civilian groups) firstly declare their intention of acting on a *support* (the physical arrangement of things) in order to mould its palimpsestic *symbolic content*; and, secondly, that they be willing to interact with the community concerned regarding the cultural and symbolical relationships it establishes between the two terms, and which it experiences in terms of landscape. From this point of view, it is not an exaggeration to suggest that the experience of landscape design is the most fecund exercise a society can undertake in the post-modern condition—that is a condition within which society itself has become able (and is also called) to deal with its own interpretative habits. So—the message finally is—*space matters in enhancing creative attitudes in the knowledge age in as much as it is experienced and dealt with as landscape*. Somehow surprisingly, the most explicit references in this connection come from case studies on the smallest urban realities examined above, Poznań and Pécs: this is perhaps a symptom of the rising awareness that even small- and medium-sized cities now form of the role urban landscape, with its dense symbolic endowment, plays in moulding urban atmosphere, and attracting and/or retaining knowledge-based activities or, more widely, the creative class (Compagnucci & Cusinato, 2015).

Two other lessons belonging to the realm of urban policies arise from comparison of case studies regarding greater metropolitan areas: Paris, Milan and Munich. It is evident that they differ considerably in size and urban structure, and that this has crucial effects not only on the KCS geography (the direct subject matter of the

case studies), but also on the social structure. Unlike the other two metropolitan regions examined, the urban structure of Milan is strongly monocentric, with the centre located in *Piazza del Duomo*. The spatial distribution of economic activities around it follows the classical bid rent curve, with the most profitable activities placed in the inner city and the other ones progressively located at an increasing distance according to their willingness to pay decreasing urban rent. Maps regarding KCS and manufacture geographies in provincial Milan show that the most sophisticated ones, such as Private-core KCS, strongly compete for a central location, whereas competition decreases with the lessening of the learning level involved: Collateral Services catering for KCS and manufacturing activities actually show a less pronounced attraction towards central locations and, what is particularly meaningful, sprawl around *the* centre, according to the radial pattern of transport routes departing from it.

Substantially different is the situation of the other examined greater metropolitan regions, which share a networked urban model. The primary centres are clearly identifiable, coincident with the inner city and also strongly attractive to high level, highly profitable activities. However, unlike Milan, a system of urban clusters is also identifiable in their surrounding areas, many of which are characterised by industrial specialisation (high-tech manufacture, with their possible sectorial differentiations into the automotive, chemical, biotechnological and cultural industries, healthcare and related research centres, and so on). The KCS geography also follows an articulated location pattern, with the symbolic knowledge-based services competing for inner location, and the analytical and synthetic knowledge-based services generally following high-tech and medium-low-tech industry. Furthermore, as the Munich case shows, the cultural industry may also follow a networked location pattern, so that the symbolic knowledge-based KCS are not exclusively attracted by the inner city, but cluster according to their affinity to specific branches of the cultural industry, such as film-making.

This assessment of the different urban patterns in the greater metropolitan regions also serves to shed light on a critical issue concerning the chances for further developments in the KCS sector, and the local economy as a whole, once it is clear that it is an increasingly knowledge-based economy. If KCS prove to be differently susceptible to urban and Marshallian agglomeration economies according to their specific knowledge base, in the presence of a monocentric urban pattern, like Milan, all kinds of KCS compete for central locations, with the consequence that they contribute substantially to raising urban rent, thus creating barriers for their own further development. But where competition for a unique central location is not so strong because of the presence of a networked urban-and-industrial metropolitan pattern, there are many more opportunities for high-level KCS development, thanks to the fact that they can locate in differentiated specialised centres, according to their affinity with specific kinds of knowledge-based industries. Further investigation on this topic appears to be crucial to the design of suitable urban and metropolitan policies in the knowledge age.

Investigations respectively conducted by Mazzoleni, and Mazzoleni & Pechmann on the Milan and Munich cases make it possible to point out two other

aspects. First, the different urban patterns of a monocentric and networked form have crucial social consequences. In the Milan area, the strong competition for central location traces a clear-cut social boundary between the dominant core city (Mazzoleni identifies it with the inner ring of the ‘Spanish Bastions’) and a dependent periphery. Though enclaves of poor dwellers exist in some interstices within the core city, and affluent dwellers in the neighbourhoods, Mazzoleni maintains that this kind of urban structure fuels increasing socio-spatial polarisation, if not marginalisation.

Rather different appears the condition in the Munich metropolitan region. As observed above, the core city here too exerts a formidable attraction for sophisticated service activities. Unlike Milan, however, Munich has a planned satellite system of specialised and well-connected minor urban centres, which offer suitable locations for both specialist activities and dwelling for skilled workers. This networked system acts as a spatial device for distributing high-level economic activities and highly-paid workers according to a polycentric pattern; it also entails containment of socio-spatial differentiation, to such an extent that phenomena of hard urban polarisation are not manifest.

These different regional patterns are the outcome of very different urban and regional policies. In Milan, we are in the presence, not of an absolute lack of such a policy, but of a policy which has long followed rather than preceding private initiative along with the dominant lobbies’ interests in urban land use. As a result, important opportunities for establishing a long-term oriented metropolitan design have been lost due to the private agents’ ‘constitutional’ inability to conceive and govern such a general design over time. On the contrary, a long-term and consistently implemented policy lies at the basis of the Munich metropolitan structure, with the advantages that follow in terms of location opportunities and development for highly advanced activities, and in terms of social cohesion.

A closely connected topic concerns the role small and medium-sized cities (SMCs) can play in the knowledge era. If the hypothesis is that certain kinds of KIS/KCS derive considerable benefits from urban economies, SMCs clearly cannot compete with major cities in this sector (as the Pécs case shows). Some not insignificant opportunities remain however, because of the links between high-tech industry and manufacturing with respectively analytic and synthetic knowledge-based KCS, which can be summarised as follows:

- (a) SMCs belonging to a metropolitan region can benefit from a networked urban pattern—the so-called “borrowed size effect” (Alonso, 1973), inside which specialised industrial branches cluster in SMCs around the major city;
- (b) in the case of monocentric metropolitan regions the opportunities for SMCs are lower because of the lack of specialised and distinctive industrial clusters. SMCs can however work as secondary places for Core-related KCS or Collateral activities for KCS, according to the bid rent rule, and/or residential places for ‘creative’ workers having a preference for smoother amenities;

- (c) as regards SMCs lying outside greater metropolitan regions, the key conditions for playing a role in the knowledge value chain are to be inserted within an industrial region or to be a place for public KCS (as the French case and, at a lower scale, the Pécs case show), or finally being an albeit second-order node within a wider net of dynamic economic relationships (as the Poznań case shows). In these circumstances, SMCs can work as both providers of second-order knowledge-based services in favour of the local system and as *relais* between the local industrial systems and major cities, or among major cities.

5 Guidelines for Policies

The above discussion shows that there is ample room for policies aimed at enhancing creativity, in line with a milieu-based approach. The distinctive feature of this approach lies in the preference given to interventions on the structural rather than the functional level within the socio-spatial connection. This structural feature has been often indicated in this anthology as well as elsewhere⁶ in (a) *heterogeneity* of visions, interests, skills, competences, behaviours and, more comprehensively, habits, within the community involved⁷; (b) *relational density*, i.e. the frequency with which exchanges of signs and goods (not to mention the anthropologists' rougher triad) occur within that community; (c) the symbolically vested local space, i.e. *landscape*, which acts as a catalyst for releasing the generative potential of the first two elements.

Faced with this frame of reference, policies must prove themselves capable of moulding the above structural arrangement in order to create conditions for a place to turn into a generative milieu, or an existing milieu to work more effectively. This they can achieve by removing blockages (think, for example, of a prisoner's dilemma-like situations), providing new structural building blocks and/or establishing new connections between them. Unlike individual action, collective/public action can cope better because it operates on the same institutional level on which structures work. This realisation would be decisive in the debate about the suitability (if not legitimacy) of public intervention in enhancing the generative power of milieus, and especially cities (Andersson, 2011a, b). While rigid coercive policies, like conformance planning, may be unsuitable for such a task in a complex, evolving condition (Moroni, 2011), admitting this and concluding that cities in the creativity-led era need less or no government in urban design and also planning is problematic. As Healey (2004) writes, first, "governance and creativity

⁶ But limited to the first two of the elements mentioned below, as Cusinato has shown.

⁷ The term 'community' means that there has to be a minimal common basis of shared values and also visions etc. among participants, so that it becomes in any case a matter of 'related heterogeneity'. This expression clearly echoes the debate about the role of related and unrelated variety in economic development (Frenken, Van Oort, & Verburg, 2007).

are not opposed but are intertwined phenomena. Some modes of governance may restrict creativity in evolutions in economic and social life and in ways of managing collective problems of urban existence. Others may help to release creative energy” (p. 100); and, second, government is not opposed to governance, in that it is a possible tool among others, which can be decisive in some contingencies to make the debate to ‘precipitate’ into decision, that is, to turn collectively arisen ideas into innovations.

Thus, the efficient way of accomplishing such a task rests on the recognition that the components of a milieu form a system, so that agency can be effective only by intervening on the systemic level, independently of the starting point. In fact, heterogeneity without relational density remains sterile, whereas the reverse locks communities into repetition; similarly, heterogeneity in the absence of a minimally shared symbolical apparatus remains noise, and relational density without it will probably turn into destructive creativity⁸.

It follows that strategies aiming, for example, at improving the milieu effect through augmented heterogeneity (by variously leveraging on volume, variety and/or openness of the local system) must also intervene on the social and institutional level to adjust both relational density and the common symbolic universe. Urban planning & design and, more generally, governance, seem to be the leading way. The by now rich urban literature and practice maintain (and also prove) that the size and density of building areas, the arrangement of infrastructural networks, and the discerning and careful design of public spaces along with the presence of high-level economic activities and amenities influence both volume and internal and external connectivity, thus fostering the *mixité* effect; but the theme of urban landscape governance too is becoming crucial within that debate, because of the catalyst effect it is credited with.

From this perspective, the urban fabric appears as a text or more precisely, a palimpsest on which social actors, individually and collectively, overwrite their stories, like wall-writers daily do to give themselves social *voix* (Alonso, 1998; Lachmann, 1988; Moreau & Alderman, 2011). Such a text responds to two structural aims, of a retrospective and prospective kind. Since learning (especially *L3*) substantially entails continuous ‘leave taking’ from already experienced/known terrains and, ultimately, from any transient Self, the landscape experience provides individuals and groups with the indispensable reference frame to maintain retrospectively a tie with their endlessly successive experiential conditions, thus making learning possible. On the prospective side, learning entails building new play-margins beside/besides one’s own mental habit (Huizinga, 1944), and the landscape experience provides people with the raw material—the substratum—to create such play.

Landscape policies must therefore accomplish at least two tasks. First, to ease the maintenance of ties with the ‘realisations’, in terms of landscape palimpsests, of

⁸ This is a quite different condition from the Schumpeterian “creative destruction”, which is based on an extremely thick and ordered relational structure, the market.

preceding symbolic universes, which means that policy makers have to cultivate both their physical support—the urban space—and the actants’ interpretative competences. This entails training actants to cultivate their interpretative (rather than merely absorptive) capacities through dedicated education, by supporting them through bridging/bonding mediators with internal and external heterogeneity, such as transcoders (Camagni, in this book), gatekeepers, and also KCS (or similar KIS categories), and finally by encouraging them to play with dissonances (to “flirt with chaos”, in Philippopoulos-Mihalopoulos’ words). Second, policies have to enrich the physical urban text with examples of how the multiplicity of ‘codes’ which lie incorporated within the landscape palimpsest can be combined with the heterogeneity of extant cultural habits to yield new play margins for exploration experiences (Dembski, 2013; Landry, 2011).

The specific lesson this anthology ultimately offers is that landscape and related policies and practices are the keystone for any strategy concerning the (generative) milieu issue, in that they allow the emotional component of learning to come into effect through *L2* and especially *L3* exercises, the hotbeds of creativity and creativity governance. Somehow paradoxically, these policies and practices build a bridge between the most *immaterial* component of the material life—the structure and working of social relationships—and the most *material* element of the symbolic social life—that is the physical support of landscape. Through them, space acquires an explicit *generative* connotation, thus transcending (by encompassing them) the *receptive*, *instrumental* or else *theatrical* connotations the current debate on landscape usually confers on it (Heinen, 2013).

This topic finds its best rendering within the “symbolic markers” approach, according to which “[they] are defined as symbolic projects that are part of a wider strategy and signify *a new understanding* of the [. . . urban] area” (Dembski, 2013, p. 2016; emphasis added). They are the matter of urban and territorial transformation projects, which are promoted, not so much for functional reasons, but for the impact they have on the “audience’s” symbolic systems (Löw, 2008). It ultimately follows that the key mission of urban planners and designers on the boundary between the modern and the post-modern epochs is not so much that of vesting urban transformation projects with landscape contents to a solely aesthetic goal, but of employing them as opportunities to learn how and to what extent it becomes possible to move from already experienced symbolic landscapes *to create* new ones, similarly to what occurs in the arts. Sociologists, geographers, designers and planners are becoming much more aware than economists of these landscape implications of urban policies.⁹ The ongoing centrality that the socio-spatial connection is assuming in the debate on knowledge generation and creativity governance cannot but encourage them to cope with issues that, owing to their extraneousness to the positivist canons, are (de)qualified as ‘metaphysical’, and

⁹ See, for example, Waldheim (2012), Kahn, Moulaert, & Schreurs (2013), Madanipour (2013), though the generative role of landscape remains somehow unexpressed in their works.

ruled out of the scientific domain: without realising however that exploration comes to pass beyond the positivist stance.

References

- Alonso, A. (1998). Urban Graffiti on the City Landscape. Paper presented at the Western Geography Graduate Conference, San Diego State University, February 14. Available at <http://www.asu.edu/courses/aph294/total-readings/alonso%20-%20urbangraffiti.pdf>.
- Alonso, W. (1973). Urban zero population growth. *Daedalus*, 102(4), 191–206.
- Andersson, Å. E. (2011a). Creative people need creative cities. In D. E. Andersson, Å. E. Andersson, & C. Mellander (Eds.), *Handbook of creative cities* (pp. 14–55). Cheltenham: Edward Elgar.
- Andersson, D. E. (2011b). Creative cities need less government. In D. E. Andersson, Å. E. Andersson, & C. Mellander (Eds.), *Handbook of creative cities* (pp. 327–342). Cheltenham: Edward Elgar.
- Carayannis, E. G., & Campbell, D. F. J. (2012). *Mode 3 knowledge production in quadruple helix innovation systems: 21st-century democracy, innovation, and entrepreneurship for development*. New York: Springer.
- Compagnucci, F. & Cusinato, A. (2015). Il ruolo delle piccole e medie città nell'economia 3.0. Evidenze dal caso italiano, *Scienze Regionali*, forthcoming.
- Dembski, S. (2013). In search of symbolic markers: transforming the urbanized landscape of the Rotterdam Rijnmond. *International Journal of Urban and Regional Research*, 37(6), 2014–2034.
- Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From national systems and “Mode 2” to a Triple Helix of University-Industry-Government relations. *Research Policy*, 29(2), 109–123.
- Frenken, K., Van Oort, F., & Verburg, T. (2007). Related variety, unrelated variety and regional economic growth. *Regional Studies*, 41(5), 685–697.
- Godelier, M. (1978). Infrastructures, societies, and history. *Current Anthropology*, 19(4), 763–771.
- Hall, P. G. (1998). *Cities in civilization: Culture, innovation, and urban order*. London: Weidenfeld & Nicholson.
- Healey, P. (2004). Creativity and urban governance. *Policy Studies*, 25(2), 87–102.
- Heinen, H. (2013). Space as receptor, instrument or stage: Notes on the interaction between spatial and social constellations. *International Planning Studies*, 18(3–4), 342–357.
- Huizinga, J. (1944). *Homo Ludens: A study of the play-element in culture*. New York: Routledge & Kegan Paul.
- Kahn, A. Z., Moulart, F. & Schreurs, J. (2013). Epistemology of space: Exploring relational perspectives in planning, urbanism, architecture. *International Planning Studies*, 18(3–4), 287–303.
- Lachmann, R. (1988). Graffiti as career and ideology. *American Journal of Sociology*, 94(2), 229–250.
- Landry, C. (2011). A roadmap for the creative city. In D. E. Andersson, Å. E. Andersson & C. Mellander (Eds.), *Handbook of creative cities* (pp. 517–536). Cheltenham: Edward Elgar.
- Löv, M. (2008). The constitution of space: The structuration of spaces through the simultaneity of effect and perception. *European Journal of Social Theory*, 11(1), 25–49.
- Löwe, A. (2013[1935]). *Economics and Sociology*. New York: Routledge.
- Madanipour, A. (2013). Researching space, transgressing epistemic boundaries. *International Planning Studies*, 18(3–4), 372–388.
- Moreau, T. & Alderman, D. H. (2011). Graffiti hurts and the eradication of alternative landscape expression. *Geographical Review*, 101(1), 106–124.

- Moroni, S. (2011). Land-use regulation for the creative city. In D. E. Andersson, Å. E. Andersson, & C. Mellander (Eds.), *Handbook of creative cities* (pp. 343–364). Cheltenham: Edward Elgar.
- Perrin, J.-C. (2006[1995]). Apprentissage collectif, territoire et milieu innovateur: Un nouveau paradigme pour le développement. In R. Camagni & D. Maillat (Eds.), *Milieux innovateurs: Théorie et politiques*. (pp. 99–128). Paris: Economica.
- Simon, H. (1956). Rational choice and the structure of the environment. *Psychological Review*, 63 (2), 129–138.
- Swedberg, R. (1990). *Economics and sociology: redefining their boundaries. Conversations with economists and sociologists*. Princeton: Princeton University Press.
- Waldheim, C. (Ed.) (2012). *The landscape urbanism reader*. New York: Princeton Architectural Press.