From company town to 'reversed' company town: the firm's role in shaping the urban landscape: the case of Ivrea (Italy)

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Abstract: The paper focuses on the phenomenon of company towns. Despite the deep impact that firms have on urban landscapes, the existing urban planning/managerial literature lacks the proper consideration of this issue. To fill this gap, this paper sheds light on how firms shape urban landscapes through categorical values, building a different model of company towns. It analyses the case of Ivrea[1] (Italy) as an interesting example of a 'reversed' company town, rooted in Olivetti's distinctive categorical values. The paper's final remarks underscore the oft-hidden role of categorical values in shaping an urban landscape's tangible dimensions.

Keywords: company town; complexity; urban landscape; urban planning; categorical values; Ivrea.

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1 Introduction

From the first industrial revolution to the emergent fourth industrial revolution, firms have deeply impacted urban and rural lands (Perroux, 1950, 1955, 1958) and have been crucial players in the landscape as a co-evolutive phenomenon. A significant example of this impact is the company town, where a company is the central player in shaping its urban landscape. Despite this deep and increasing impact, a firm's role in shaping the urban landscape is not adequately considered by the extant urban planning and urban management literature. Bridging this literature gap, this paper explores the firm's role in shaping the town where it is established via its categorical values, giving rise to different models of urban landscapes. Adhering to the complexity perspective, Section 2 describes, on the one hand, the urban landscape as a complex system; on the other, it illustrates the role of decision-makers' categorical values in shaping the urban landscape.

The paper then explains how different sets of firm categorical values give rise to different company town models by articulating the co-evolutive relationship between a town and its main company. Accordingly, it considers two kinds of company towns: the traditional (vicious) company town and the *reversed* (i.e., virtuous) company town. Supported by a broad literature review, Section 3 deeply analyses the main features of a traditional company town: its historical origin and the evolution of its role in the historic industrial settlement; the main social, political, urban and critical architectural issues they produce; and the set of company categorical values that shape the urban landscape. Sections 4 and 5 shed new light on the role of categorical values in shaping a company town by carefully analysing the case of Ivrea (Italy); a *rara avis,* an interesting example of a *reversed* company town. Although company towns usually summon the image of a *feudal barony*, Ivrea – thanks to the Olivetti Company and its distinctive set of categorical values – embodies a virtuous company town, as indicated by its UNESCO World Heritage acknowledgement in 2018. Section 6 presents implications for urban policies by underlining the crucial yet often hidden role played by categorical values in shaping the urban landscape.

2 Urban landscape as a complex system: the role of categorical values in urban planning

There are many social and natural phenomena now recognised as consisting of complex systems (i.e., comprised of a high number of interdependent variables with nonlinear relationships and uncertainty) (Simon, 1962), including political entities and societies' economies, which are ecological, bio-physical and symbolic systems. Although not recognised as complex phenomena until the 1960s (Batty, 2013), cities and urban landscapes are among these (Hopkins, 2001; Batty, 2007; West, 2017). In complex systems, "the whole is more than the sum of the parts, not in an ultimate, metaphysical sense, but in the important pragmatic sense that, given the properties of the parts and the laws of their interaction, it is not a trivial matter to infer the properties of the whole. In the face of complexity, an in-principle reductionist may be at the same time pragmatic holistic" (Simon, 1962, p.468). Complex systems display unforeseen (i.e., uncertain) and nonlinear behaviour (Anderson, 1999; Batty, 2007): components interact in a tight net where a small change can severely affect the whole system's behaviour. This happens due to causal ambiguity. In fact, in complex systems, cause and effect are not closely related in time and space: the output loses its direct causal relationship with the input, and the effects of a given input may occur on very different time horizons. In addition, decision processes about urban landscapes (i.e., urban planning and urban governance) move away from *tame problems* (i.e., wholly known, bounded and highly defined problems), shifting into a typical *wicked problem* (i.e., complex, uncertain and highly unpredictable problems) (Rittel and Webber, 1973; Martin, 2009; Conti et al., 2019)

As a wicked problem, urban planning does not typically facilitate an optimal formulation or the best solution, but rather a 'satisfying' solution. The emergence of an urban landscape is the outcome of bounded rationality (Simon, 1947) through which public and private actors conceive the context: this, in turn, depends on the variety of information that actors possess (Ashby, 1957, 1958; Barile, 2009; Simone et al., 2018a). Information variety is a bundle of several subjective variables that inform the decisional process. It is fundamental to appreciate the 'hidden' goals, performances, efficient or inefficient efforts and effects (e.g., successes and failures; satisfying or not satisfying) in managing a complex system.

To further elaborate, the information variety is made up of three main elements (Barile, 2009; Simone et al., 2018a):

- the information units (U); i.e., the data possessed by system K (decision-makers such as individuals, institutions, public administrations, policy makers, urban planners, etc.) on the specific problematic context;
- the discipline schemes (DS); i.e., the structured and codified knowledge that derives from the application by system K of the set of disciplinary competencies to a given field (i.e., technical and instrumental knowledge);
- the categorical values (Cval); i.e., the values, strong beliefs or convictions that lead the system K's choices in any problematic context, qualifying its unique identity.

$$V\,\mathrm{inf}\,(k) = [U\,\mathrm{inf}\,(k), S\,\mathrm{int}\,(k), C\,\mathrm{val}\,(k)]$$

where

V inf (*k*): information variety of the viable system K;

U inf (*k*): information unit belonging to the information variety of the viable system K

DS int (*k*): specific disciplinary schemes belonging to the information variety of viable system K

C val (*k*): Categorical values belonging to the information variety of viable system K.

This last element – *categorical values* –impels decision-maker behavioural models and indicates how tangible/intangible resources are selected, organised, and employed; they are the subjective filters that customise the use of both private and collective resources (Jacques, 1952; Pettigrew, 1979; Schein, 1990). Different and consistent sets of categorical values give rise to a variant reading of the urban landscape and discrete value judgements (Simon, 1947), consistently shaping how space is conceived, perceived and planned.

In the following section, we will analyse how a firm's categorical values broadly affect how an urban landscape is shaped.

3 When firms start shaping the urban landscape: the company town

Each firm has a unique relationship with a given territory and the specific urban landscape where it exists, a locus where it feeds itself on a distinctively natural, historical, cultural and cognitive heritage. Nevertheless, this bond does not follow a definite paradigm or a specific evolutionary path (Revelli, 2015); instead, it is deeply affected by the information variety and categorical values of company decision-makers (i.e., shareholders and management).

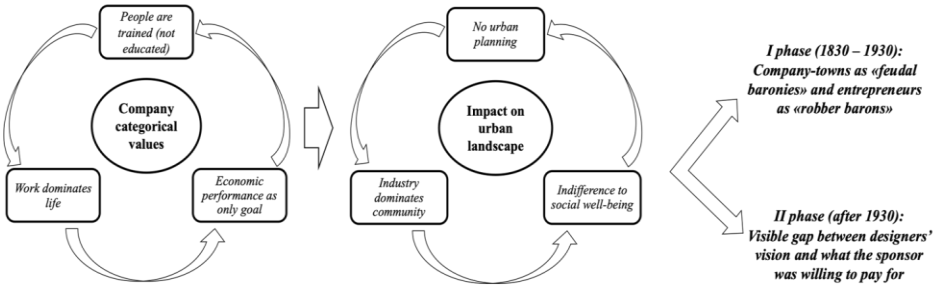
Company towns were sites created around and governed by a particular company. There were two main historical phases in their evolution: the first between 1830 and 1930 and the second after 1930. Most of them were established during the first phase (first industrial revolution) in the 'paleotechnic era' (Mumford, 1938) when technology was embryonic and operations labour intensive. Towns flourished in areas that embraced capitalism and open-market trading and belonged to industrialists whose new businesses contributed to the Industrial Revolution's progress. The term *company town* was coined in America in the late nineteenth century, first applied to mining camps in Appalachia and the Monongahela Valley (Porteous, 1970). It was always used pejoratively, carrying a stigma that never faded (Clark, 1916). In time, 'company town' was used to describe other single-enterprise towns, including those engaged in manufacturing (Twain, 1903; Allen, 1966). Some company towns were pre-planned, but many were not: they expanded as their enterprises matured according to the company's evolutive dynamic. Workers in company towns developed their own subset of categorical values: the social order was derived from labour routines, isolation and company-driven rules (English-Lueck, 2000). However, despite their architectural/economic success, company towns were political failures, owing to their lack of government, elected officials and municipal services.

Even the best company town was stoked by poverty and resentments (Becker, 1906). There was a misalignment between urban planners and policy makers and company interests (Davoudi and Brooks, 2020). This institutional void constituted a lack of rules that would ultimately reorient categorical values towards a positive shaping of urban landscapes.

The image of company towns was mainly shaped by the exposes of social reformers and the reports of labour investigators (Steedman, 2009): Dickens and Engels called attention to the social upheaval brought about by industrialisation (Engels, 1845; Dickens, 1996). Housing reform, for example, represented a tangible goal of those seeking to improve the lives of industrial workers (Johnson, 1952; Steedman, 2009). Given how industrial developments were depicted in the nineteenth century, company towns summoned the image of a 'feudal barony' (Creel, 1915). Their occupants were locked in as machine-enslaved automata. Entrepreneurs who built the towns were labelled as 'robber barons' (Ely, 1885; Taylor, 1915; Veiller, 1919). Labour exploitation occurred frequently and was a matter of record (Wood, 1919). In the US and Europe, skilled labour was relatively unfettered; additionally, locational mobility ran high (Cheshire, 1995; Newman and Thornley, 1996): workers' limited possessions (renting instead of owning houses) increased their mobility. Labour conditions between 1830 and 1850 were indisputably poor, particularly in overcrowded cities, and they were associated with a low quality of life and high mortality rates (Braudel, 1973; Hearder, 2014). In the first decades of the 20th century, however, advances in technology and society moved company towns towards a new, distinct role in the history of industrial settlement (Crawford, 1999). Until 1900, most company towns were industrial landscapes – direct translations of the technical and social necessities of a particular production method into a settlement form. Based on expediency, structured by habit, and planned by pragmatic owners or company engineers, their patterns mirrored the demands of industrial processes. After 1900, professional engineers, civic planners and landscape architects took over the task of designing company towns. This brought about the second phase in the evolution of company towns.

During this second phase, designs for new company towns resembled those of elite planned suburbs and rivalled them in skill and sophistication (Kane and Bell, 1985; Kenna, 2007). However, despite the formal planning similarities, the two settlement types were significantly different in their intent and meaning. In contrast to the elite suburbs' convenient access, located within easy commuting distance of city centres, new company towns were linked to their factories as closely as the older company towns (Garner, 1984; Green, 2011). The primary requirement was physical proximity to the workplace, usually measured in pedestrian distances (Taylor, 1911; Garner, 1971; Crawford, 1999). Yet unlike earlier company towns, visual separation from the factory was a key element in their design. These locational determinants often clashed, entailing remote and inconvenient sites. Cost considerations also influenced sitting decisions; large tracts of inexpensive land necessary for the new town layout were often hilly, inaccessible, or otherwise undesirable (Visentin, 2016). The vicious cause-and-effect link between the company's categorical values and its impact on the urban landscape is summarised in Figure 1.

Figure 1 The company categorical values and their impact on the urban landscape



Source: Our elaboration

4 From the company town to the reversed company town: the case of Ivrea

In the collective imaginary and socioeconomic literature, the company town is associated with a negative phenomenon, but it should be noted that this is not inevitable: the outcome depends on the categorical values driving the business model through which a company relates to a town. In fact, there are several cases of virtuous relationships between companies and towns where the former have shaped urban landscapes in a virtuous way with beneficial effects on socioeconomic dynamics. The first prominent Italian example is Villaggio Crespi on the Adda River (Northern Italy), dated 1875, and a UNESCO site since 1995, where social welfare and wellbeing were addressed as essential and unavoidable complements to economic efficiency (Ravasio, 2019). Linked with Villaggio Crespi through its similar categorical values, we will focus on a more recent Italian case in this section. It deals with Ivrea, an Italian town virtuously shaped by its main company – Olivetti – from 1908 to 1960: an honourable case that led the town to be recognised as the Industrial City of the 20th Century and the 54th Italian UNESCO World Cultural Heritage Site. Ivrea is a town of the city of Turin, the Piedmont region's capital (Northern Italy), and its main morphological feature is the Dora Baltea River. Running through the Canavese area, the river flows into the Po River near Crescentino, dividing the city into two areas: the old site and the 20th-century site. The first part dates from Ancient Rome up to the end of the nineteenth century; the second part stems from the 20th-century industrial expansion of Ivrea, Corso Jervis and the Via Torino (Ivrea_Industrial city of the 20th century, 2017). The natural landscape surrounding the city (the long horizontal ridge of the 'Morenic Serra of Ivrea' in the east and the outline of the Aosta Valley mountains in the north) is not just a geographical frame but an essential part of the 20th-century industrial city project (UNESCO, 2018). From the start of the 20th century, the predominantly agricultural area where Ivrea is located has been influenced by transformations stemming from the first Piedmontese industrial revolution. Since the 1900s, the Olivetti Company's growth has involved the entire urban structure, turning the city and its surrounding territory into a sociocultural laboratory (Olivetti, 1955). Over time, the city became an international standard of industrial and urban culture (Berta, 2002). Within its industrial area, there are 27 recognisable heritage assets (buildings and architectural complexes) (UNESCO, 2018), all considered (since 1934) as a factory extension.

Olivetti's policy of locating production facilities outside of Ivrea, leaving the city for offices while maintaining ownership of the land until 1997 contributed to its stability.[2] Shaped by the vision of Camillo Olivetti and his son, the industrial city of Ivrea developed along two different lines: the model of the company town (Garner, 1992) and that of large urban agglomerations with a heavy impact on social and productive processes (Batten, 1995; Duranton and Puga, 2004). However, Ivrea represents an outstanding example of an industrial city, both for the quality of the solutions proposed and the way they were and are applied (UNESCO, 2018).

In this regard, Adriano Olivetti's industrial and sociocultural project has a pivotal role. The site hosts production and community buildings, both serving industry and citizens with dwelling units (Astarita and De Seta, 2000; Simone et al., 2018a). The multiplicity of linguistic forms and 20th-century urban planning culture shows how the architectural heritage of Ivrea represents a central phase in addressing the expansion issues of cities and the countryside involved in industrialisation (UNESCO, 2018; Sapelli, 2018). The Industrial City of Ivrea – a real industrial and sociocultural project of the 20th century – not only represents a deep response to the challenges posed by rapid industrial change (Magnaghi, 2015; Sapelli, 2018) but also contributed to the reshaping of 20th-century theories of urbanism and industrialisation (Beals, 1951; Castells, 2005; Sapelli and Cadeddu, 2007; Goldblatt, 2013). Ivrea's urban landscape was designed by some of the best Italian architects and urban planners between the 1930s and 1960s under the guidance of entrepreneur Adriano Olivetti (Serafini, 2015). The town is comprised of buildings for manufacturing, administration, social services and residential uses, reflecting the ideas of the Movimento Comunità (1947) collected in Adriano's book 'L'Ordine politico Delle Comunità' (1945). The UNESCO report clearly articulates the deep and rooted bond embodied in the town's acknowledgement in the UNESCO World Heritage, the wise and enlightened Adriano's actions,[3] and the role played by his company (Table 1). The International Council on Monuments and Sites (ICOMOS) recognises the significance of the "Ivrea, Industrial City of the 20th Century" as a distinctive example of experimentation with social and architectural ideas about industrial processes.[4]

5 Territory as a relational good, concrete community and the beauty of urban planning: unveiling the categorical values of a reversed company town

What are the main categorical values that drive the birth of a 'reversed' company town? The case of Ivrea facilitates their identification. In particular, it represents a valuable lesson; current relations between firms and the urban landscape often appear tense, conflicting or even exacerbated by contradictory objectives such as relocation, environmental impact and health. After describing the Olivetti Company, this section provides the main categorical values that have guided Olivetti in shaping the urban landscape of Ivrea.

Table 1 "Ivrea – the industrial city of the 20th century": role of the Olivetti Company

Criteria	The role of the Olivetti company in shaping the urban space (ICOMOS justification)
"To exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning and landscape design"	Ivrea is an alternative, outstanding response, in both structural and social terms, to issues posed by the rapid evolution of industrialization processes. The renewed organisational structure inside the factory coincided with the increased role of the factory in promoting experimental policies towards a new organization of town and country.
"To be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history"	The buildings that make up the industrial city of Ivrea form an outstanding series of well-preserved buildings for industry, social service facilities and dwellings of exceptional architectural quality, among the first and highest expressions of a modern vision of production relationships, designed by the greatest 20th century architects and by factory technicians. Their overall value can only be appreciated by acknowledging their role in an exemplary socio-economic project of "community".
"To be directly or tangibly associated with events or living traditions, with ideas, or beliefs, with artistic and literary works of outstanding universal significance"	Ivrea represents the political "manifesto" of the Movimento Comunità, inspired by the Adriano Olivetti's will to re-organize the State (Olivetti, 1945). Olivetti's proposal stands out in the panorama of 20th century community proposals for the heterogeneity of community-based cultural references and for the role played by the factory, hub for wealth and valuable social relations.
Statement of Outstanding Universal Value	**Acknowledgement to Olivetti**
Integrity	The site includes all the essential elements that are fundamental for the complete representation of its values. All the buildings (production, industrial services and dwellings) are concentrated along the Corso Jervis road, typifying the innovative company policies and the settlement models experimented by Ivrea since the 1930s. The site morphology and area destination have not changed over time so that the relationships between buildings and buildings and the urban landscape, is still today recognizable.
Authenticity	Over time the site has maintained its original characteristics; the change in production type which has involved Ivrea in recent years has meant functional changes for some buildings, which however have not altered their legibility (the original design remains recognizable), as do the architectural and composition qualities, together with the highly symbolic value of the industrial and socio-economic experience of Ivrea overall.

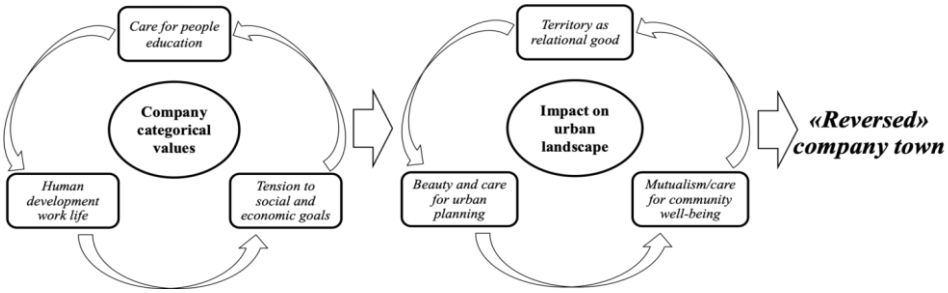
Source: Our elaboration from the ICOMOS report[5]

The sole emphasis on profit-driven capitalism produced an increasing social fragmentation that stressed the necessity to identify new forms of welfare, social protection and mutual care, as well as new human-centred approaches to governance (Latouche, 2010) – overcoming the traditionally capitalist welfare-productivity trade-off (Balbo, 1962; Simone and La Sala, 2018). This adds to the relevance of Adriano Olivetti and his company. Founded by Camillo Olivetti (Ivrea, 1908) and led by Adriano from 1932 forward, Olivetti was the first Italian typewriter factory. Beyond creating economic value, the company brought about a true cultural revolution and radical socioeconomic development (Gallino, 2001). This was the result of Adriano's entrepreneurial conception: factories were not just a workplace but social environments for coexistence (Olivetti, 1945). No value could have been generated without inspiration and freedom: freed from constraints, workers could fully express their subjectivity, giving rise to a concrete community of a people rather than individuals (Mounier, 1964; Jonas, 2005; Sapelli, 2018).

A concrete community cannot be separated from its environment (Tönnies, 1912; Gallino, 2001; Sapelli, 2007): the firm-territory pair – no longer a resource-reservoir to be exploited (as it was for traditional company towns) – transforms into a smart land (Olivetti, 1955). According to Olivetti, the destiny of present democracies is connected to how "middle lands", spaces of re-aggregation and loci for relational goods (Bonomi, 2015), will combat social atomisation and individualisation (Bourdieu, 1979; Bauman,

2003; Helliwell, 2005; Ryff and Singer, 2006; May, 2007; Simone et al., 2019). As a result, Olivetti moulds Ivrea as a reversed company town according to the following three main pillars: territory as a relational good, mutualism of the concrete community, and avant-garde urban planning (Figure 2).

Figure 2 Shaping a 'reversed' company town: the role of the company categorical values



Source: Our elaboration

The territory: a relational good. The Olivetti-territory relationship emphasises ideas such as area, space, region and the physical configuration of the territory itself: a set of tangible resources in a defined space, the consequence of human activities and incessant interaction with the environment. The firm-territory couple is multifaceted and reflects the interchange among the economy, society and environment (Etzkowitz and Leydesdorff, 2000), as well as the balance between 'places' and 'flows' that transform the socio-anthropological structure of places (Georgescu-Roegen, 2003). The strengthening of this 'community' dimension is essential to promote territorial autopoiesis and ensure its growth and self-organisation (Olivetti, 1945). This 'human' dream – Adriano's sociopolitical project – has been realised by associating the development of the firm with the development of a territorial community, bringing out the spirit of the place and interpreting local identity as a lever for socioeconomic development (Magnaghi, 2015; Becattini, 2015; Sapelli, 2018). This community is halfway between small towns' localism and the atomisation of metropolises: it is the medium-sized city typical of Italian urbanisation. The lack of harmony between these two dimensions would lead to the decay of this variety of territory and its debasement into a simple crossroads for global functions (Bonomi, 2015, pp.55–59). Recognising the territory as a smart land is inevitable, beyond the mere governance of global and technocratic flows: not only as a virtual construction of social relations, inattentive to the issues of identity and social polarisation, but also as a relational good that comes from friendship, mutual aid and civil commitment (Uhlaner, 1989; Bonomi, 2015).

A meta-capitalist paradigm: concrete community and mutualism. In Adriano's mind, "Crucial is Community", a notion with both empirical and spiritual connotations (Brilliant, 1993) built around human beings (Olivetti, 1945). Firms are key players in local social and economic developments, and managers have a direct responsibility to serve their community and foster optimal company growth (Olivetti, 2013). Furthermore, companies must be embedded in their communities as institutions (Gallino, 2001). Evidence of this can be found in the role of higher education as a driving force for knowledge transmission and diffusion (e.g., Adriano found in collaboration with the

University of Pisa the possibility to better train his engineers) (Freeman, 1987). Moreover, an irreplaceable role was assigned to employees and their human development (Olivetti, 2013; Simone et al., 2018b): the entire factory was organised as a meeting place with large windows to allow employees to maintain the link with their territory and its rhythm, preventing alienation and stress (Simone et al., 2018b). Employees were also encouraged to design new products themselves (Piol, 2004) and were guaranteed equal career opportunities. A psychological centre and a wide range of further social services were established to increase workers' wellbeing and to compensate for their efforts, combining beauty research with care for people (Gallino, 2001). This orientation towards a concrete community – a locus of social bonds determined not by economic transactions but through emotional ties (Sapelli, 2018) – also became the basis of Adriano's political party: "Movimento di Comunità" (Olivetti, 1955). Trust, mutuality and help are the sole forces that may harmoniously hold a community together (Mournier, 1949; Olivetti, 1955). This ethical economy, built on subsidiarity and the primacy of people over the state, is the perspective in which a possible alternative to capitalist logic lies (Mournier, 1964; Hirsch, 1980; Gallino, 2001; Simone and La Sala, 2018; Castelnovo et al., 2020).

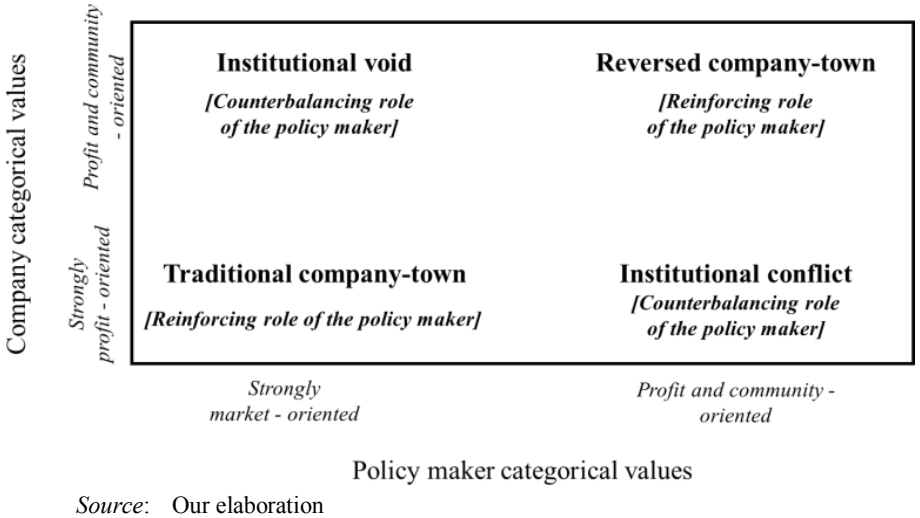
A sustainable, avant-garde urban planning. A never-ending quest for excellence favours the community's project. Adriano is animated by the idea of a society dedicated to beauty and harmony, ideals that structure his commitment to urban planning (Boltri et al., 1998) and the search for synergies between industry, territory and local community (Simone et al., 2018a). Urban planning and architectural culture have been the driving forces behind the goal of social development, and the relationship between form and function underlies each of his projects while architecture – the highest expression of beauty and the natural confluence of research and art (Bricco, 2005; Thompson, 2019) – shapes the instances of renewal (Olivetti, 2013), especially where economic backwardness is more present. Urban planning creates harmony in the community, providing the minimum conditions for living with dignity (May 2007). These buildings are tangible examples of a sustainable and unconventional vision of productive relations, symbolising an industrial city in which the factory functions as the engine of wellbeing and economic wealth. This transformed Ivrea into a virtuous industrial city, a 'reversed' company town, where the industrial system is woven into the urban fabric, fully integrating with it (www.ivreacittaindustriale.it). It cannot be compared to utopian/philanthropic industrial communities or traditional company towns because Ivrea is not imaginary; it is the concrete recognition of a socioeconomic project generated by the coexistence of industrialisation and agricultural processes. Thus, there is a common nucleus at the crossroads between the Olivetti entrepreneur and politician: the tension between harmony and beauty that reconciles production and culture, art and industry, factory and territory, work and life, society and community, breaking the barriers that separate them to shape a new, integrated democracy (Weil, 1951).

6 Final remarks: implications for urban policy and future research

The urban landscape is a complex system, and its governance can be understood as wicked problems. As discussed in Section 2, the planning and management of an urban landscape constitute a non-definite problem with no univocal formulation. Any implemented decision will cause several unpredictable feedbacks over time and space.

Full feedback cannot be understood until the effects have run out entirely. This issue does not facilitate a best (i.e., optimal) solution but only a 'satisficing' solution. In this scenario, what could the policy maker's role in facing a company town's emergence be? Should it be a reinforcing or a counterbalancing role? A preventive reply to this question is not simple: it depends, in fact, on the company-town typology (i.e., traditional vs. reversed). However, it is possible to discuss the interaction effect of the policy makers' set of categorical values and those of the company (Figure 3). The following matrix aims to address these issues.

Figure 3 Implication for urban policy analysis



Source: Our elaboration

Starting from the southwest dial (*Traditional company-town*), it is possible to note a strong alignment in the set of categorical values of the company and those of the policy maker. From an economic perspective, this vision can be translated through a neoclassical view: the market is a perfect mechanism to reach its natural equilibrium without any policy intervention. Moreover, negative externalities are not detected because they are not included in the company's or the policy maker's information variety.

Moving towards the northeast dial (*reversed company-town*) illustrates the case of the reversed company town. Again, there is a strong categorical value alignment, and the policy maker – through their decisions – reinforces the positive effect of the company action. They sustain these positive externalities by rewarding them via incentives, tax reduction, legitimation and social recognition. In both cases, there is a positive feedback loop rising from the interaction of the company's actions and the policy maker's decision.

Switching to the southeast dial (institutional conflict), there appears to be a misalignment between the company's and policy maker's categorical values. Therefore, the policy maker plays a counterbalancing role. Here, the company's misbehaviour and negative externalities are addressed and regulated by public decision-maker intervention and via formal norms (e.g., Pigouvian tax, EU-ETS). These measures are often based on the principle of "the one who pollutes pays". However, they are often unable to reconfigure the company's set of categorical values that frames the extant business models: they merely leverage the system's elasticity. Such measures' risk lies in the

potential shift towards "buying rights to pollute", hampering the actual reduction of environmental pollution. Eventually, the northwest dial (institutional void) addresses an opposite case of counterbalancing, where policy makers' categorical values are rooted in a neoclassical view. Negative externalities are not detected because they are not included in the policy makers' information variety. The possible outcome can produce a distortion in the competitive dynamic. Policy makers focus on economic efficiency, while the responsible company addresses wider issues such as social legitimation and sustainability (Gallino, 2005). Here, a paradox could arise: a company aiming to maintain responsible behaviour sustains a higher level of costs, resulting in less efficient socioeconomic performance.

In an era characterised by environmental crisis awareness mirrored by unprecedented institutional lethargy, the dialectic relationship between collective space (landscape) and the production space is extremely relevant. Accordingly, this paper highlights the case of Ivrea as a reverse company town, a success story of the alignment of social values and production (as opposed to traditional company towns aligned only with the single-minded capitalist value of profit). By contrast, cases of production facilities built without urban planning are endless and often associated with ecological disasters (Ilva and Taranto/ Tamburi) or social crises (Fiat and Torino/Rivalta). Regarding future trends, it could be of interest to develop further studies on the boundaries between people, companies and urban landscapes, given the current technological wave of dispersed technologies. The digital revolution is giving rise to a landscape characterised by smart factories and fuzzy boundaries. Not only are edges between companies and ecosystems getting fuzzier, but human nature is also becoming far less distinct: from the Human + to the post-human hypothesis (Andreoli, 2019). What can we learn from the case of Ivrea? How could history contribute to shaping future visions? Any company's economic and social problems are always at the forefront, and its categorical values continually inspire and constrain their solution. Despite technological evolution, Olivetti's categorical values remain pivotal for overcoming the impasse between welfare and productivity. The Olivetti paradigm became a work organisation model, while the Ivrea community was a smart land built on and for people rather than the dehumanised assembly line. Care for human value per se is still central in a world where the cognitive value of economic activities is fundamental, and where the exploitation of technology depends on human aims. This is the heritage of Ivrea's experience in a technology-driven world without boundaries.

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Notes

[1]UNESCO World Heritage acknowledgement 2018.

[2]https://www.ivreacittaindustriale.it/wpcontent/uploads/dossier/PdG_Eng_Update_2_complete_final.pdf

[3]https://whc.unesco.org/document/168701 [p.224].

[4]In particular, it states, "The urban fabric of Ivrea was forged according to the contemporary production systems and by specific architecture of the Modern Movement. While there were other notable examples of this period, none managed to carry them out so conspicuously, and at such a scale. This was an innovative experience of world-class production made compatible with community welfare in a well-defined territory and experimentation. As well as the social services invented and installed in Ivrea by the Olivetti company (library, recreation space, school, nursery, infirmary), the numerous community centres open in the surrounding villages demonstrate the Company's investment in the social and economic dimensions" (UNESCO 2018, p.229).

[5]https://www.ivreacittaindustriale.it

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