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NEXT GENERATION PLANNING

Planning and Critical Entrepreneurship

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VOLUME SEVEN, SPECIAL EDITION

Planning and Critical Entrepreneurship

Edited by Irene Luque Martín, Sabine Knierbein and Batoul Ibrahim

The seventh volume of plaNext stems from the 11th AESOP-YA Conference, “Planning and Entrepreneurship”, held in Munich, Germany, March 2017. This selection of articles opens questions about the ambiguities that evolve when introducing entrepreneurial thinking into public and civic planning debates. It shows how planners may approach entrepreneurship differently to shape critical counter conduct.

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Editorial: Planning and Critical Entrepreneurship

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Planning and entrepreneurship – New paths to follow?

Revisiting the relation between planning and entrepreneurship is a needed focus in planning education, yet not an unambiguous task to address. The 11th Conference of AESOP Young Academics Network followed the theme “Planning and Entrepreneurship”. It was hosted by the Chair of Urban Development at *Technische Universität München* in Germany. In April 2017, it brought together over 50 participants from 17 countries who presented 46 papers on the subject matter. Sometimes explicitly, at times more implicitly, young international planning scholars sought to review benefits and potential pitfalls of introducing the study of diverse forms of entrepreneurship and related concepts to contemporary planning debates, in theory and praxis, as well as at their interface. The conference embraced a “wide definition of entrepreneurship” (AESOP YA Online, 2016), encompassing the range from commercial entrepreneurship to civil initiatives that “are sometimes filling the void that planning leaves” (ibid.). It simultaneously promoted the notion that both businesses and publics take a sceptical stance towards technocratic planning and government interventions. This scepticism, apparently, “has brought the discipline into crisis, from which it has not yet fully recovered” (ibid.). The following questions accompanied the event: How can planning support innovative activities? How can planners react to technological start-ups moving into the realms of planning, architecture, and geo-localised data? Can (or should) planners themselves become entrepreneurs? (cf. AESOP Online, 2017).

Bringing debates on entrepreneurship to planning communities in Europe and beyond is not necessarily a happy marriage and bears certain ambiguities (Gilliard et al., 2017). More market-friendly scholars claim that the planning discipline needs to adapt to changing academic and regional landscapes of power. In their view, as much as universities have undergone an ‘entrepreneurial turn’, so have metropolitan regions been subjected to entrepreneurial governance. In order to engage with such a changed context, planning, too, is in need of a similar entrepreneurial shift (ibid.). Their calls for needed updates and revisions of planning education, theory and praxis are timely and resonate well with the new velocity, fluctuating interests and the chronopolitics of changing patterns of urban and regional development. A downside of such claims drawing causalities between various sub-phenomena of wider structural transformations and arguments of inherent necessity is that

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they may be blind to profound political causes and manifest social impacts these changes have emerged from or may bring about.

Entrepreneurial Cities and Entrepreneurial Governance – 30 Years of Debate

Debates on the entrepreneurial city date back beyond the recent decade of planning thought on entrepreneurialism. They have culminated at the end of the past millennium when Hall & Hubbard (1998) coined the term ‘entrepreneurial city’, thus carving a new mantra for business-friendly planning agencies.

Urban entrepreneurialism (...) is a far-reaching ideology for urban management characterised by three central elements: competition between cities to attract increasingly mobile sources of capital investment; the powerful influence of market ideologies over the trajectory and substance of urban development; and a side-lining of distributional politics in favour of growth and wealth generation. Yet it is also more than this. (MacFarlane, 2012, p. 2811, referring to MacLeod and Jones 2011, p. 2444)

Decades earlier Harvey (1989) had critically captured the shift from managerialism to entrepreneurialism in urban governance in the United States and the United Kingdom. While having identified an “antiurban bias in studies of macro-economic and macro-social change” (ibid., p. 3f), he, on the contrary, considered the urban focus as essential for understanding the political-economic dynamics of an uneven development of space. From this perspective, entrepreneurialism, which had been promoted since the 1970s, e.g. through decentralization strategies by central governments to open up avenues for city authorities, can be interpreted as an instrument for alleviating tensions resulting from the erosion of public budgets and tax revenues and hence challenges the position of central governments to continue securing “a better future for their populations” (ibid., p.4).

[T]here seems to be a general consensus emerging throughout the advanced capitalist world that positive benefits are to be had by cities taking an entrepreneurial stance to economic development. What is remarkable that this consensus seems to hold across national boundaries and even across political parties and ideologies. (Harvey, 1989, p. 4)

Harvey (ibid.) reminds that the calls for (more) entrepreneurialism emerged against the backdrop of fiscal austerity, rising unemployment rates, deindustrialization, declining powers of the nation state, the lack of state control over money flows, and a growing neoconservative political climate. By identifying the Oil Price Shock in 1973 and the related social crisis and economic recession as triggers of the entrepreneurial turn, Harvey interprets entrepreneurial urban governance as a reaction to shock, crisis and recession.¹ A parallel can be drawn to 2017. The year in which the conference of the AESOP Young Academics Network took place marked almost a decade after the world financial crisis of 2008. During this decade labour markets have structurally eroded with severe effects on urban populations, affecting cities both in the global South and in the global North (Bayat, 2013; Madanipour *et al.*, 2014). In succession, the same decade was struck by a global rise of urban social movements in 2011, – “the year of dreaming dangerously” (Žižek, 2012) – the so-called “refugee crisis” in 2015, and, 2016 – “the year of unleashing” (Kurbjuweit, 2016), when xenophobia, new authoritarianism and right-wing backlashes gained visible ground in different world regions.

¹ Foucault (2008), however, identifies the post-WWII period of occupied Germany in the late 1940 and early 1950s as the phase in which neoliberal governmentality and thereby individual entrepreneurialism become cemented as part of institutionalized policy making.

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For Harvey (1989), the “objectified qualities of the urban are chronically unstable” (p. 6). This finding, in our view, poses a central challenge to the field of planning as an action sphere which promotes the settling of structures and routines, rather than their unsettlement. Therefore, planning theory and praxis, in order to more productively grasp the changing nature of the urban (and the regional) need to constantly reinvent and update themselves. Without a doubt, debates on entrepreneurship are identified as a promising means of bringing innovation, disruption and unsettlement into the seemingly settled field of planning. Planning scholars embracing the concept of entrepreneurship hope it may reinvent the field and thus strengthen it.

Entrepreneurial Civil Society and Entrepreneurial Citizens?

The paradigm of entrepreneurship is approached with caution by proponents of public planning, state regulation and control of the markets. They warn that it may turn out as too business-friendly thus threatening to weaken the resources and roles, the reach and responsibilities of public planning bodies. A critical stance towards entrepreneurial approaches as weakening public planning emerges in the context of New Localism in Britain (Davoudi & Madanipour, 2015), or in the debates on the post-political condition of planning and governance arrangements in urban and territorial development (Metzger & Oosterlynck, 2015). Research on planning approaches centred on civil society is particularly concerned about the potential shortcomings of the new neoliberal ‘empowerment’ of civic entrepreneurs and the stimulation of an entrepreneurial civil society: Van Dyck (2012), for instance, argues that “tensions arise between the expansion of the urban neoliberal agenda” and “the potential for new forms of collective action” (p. 117). Her analysis depicted how civil society organizations originally evolving from social movements became “increasingly tied to mechanisms of resource allocation in the struggle to survive through their involvement in entrepreneurial planning. The contradictory logics driving social entrepreneurship resulted in continuous internal tensions between economic efficiency and the objectives of social change.” (ibid., p. 130).

It is widely argued in planning that social entrepreneurship offers potential for incorporating broad socio-economic objectives into the delivery of urban spatial policy (Gilliard *et al.*, 2017). However, such an endeavour also entails certain drawbacks, including the risk of instrumentalization of community-based organisations for neoliberal forms of ‘empowerment’ when “civil society groups take the entrepreneurial turn” (Van Dyck, 2011, p. 117). In this sense, a development of new and changed planning instruments and methods under the banner of entrepreneurial governance might not deliver on the promise to build the capacity of communities and publics. Just on the contrary, it may merely confirm entrepreneurial planning as a set of spatial policies or strategies which are embedded in wider forms of neoliberal governmentality (Tasan-Kok & Baeten, 2012; Davoudi, 2018; Gunder *et al.*, 2018).

Respectively, particularly research on localism has shown that although entrepreneurial policies may be

portrayed as an emancipatory process of self-government, in practice it is conditional and calculative and works by utilizing the self-governing potentials of ‘the local’ to align their goals to neoliberal values of free market, enterprise and self-reliance. The locals are freed to ‘become entrepreneurs of themselves’ (...) yet within the framework of ‘the national’ governmental priorities such as deficit reductions, competitiveness and growth (Davoudi & Madanipour, 2015, p. 20, quoting Rose *et al.*, 2009, p. 11).

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Allen *et al.* (2014) have emphasized a shift in debates which contrast the good, hard-working and future oriented, individualistic citizen as 'entrepreneurial neoliberal citizen' with a "feckless, lazy and undeserving" citizen who is medially and politically rendered as the product of a bloated welfare system (*ibid.*), an antithesis, a neoliberal non-citizen. Such discursive framings are easily mobilized by right-wing media and politics as evidence of the broken state, in this case, of 'Broken Britain' (*cf. ibid.*, p. 3). The reproductive capacity and caring labour of those 'neoliberal non-citizens' are rendered within the same discourse as "idleness and a drain on national resources" (*ibid.*, p. 3). This thread is commonly deployed in contemporary medial and political debates. A more sociocultural-scientific reading of the entrepreneurial shift in planning would raise serious concerns about social, cultural, political and economic framings that might result from debates which render planners and citizens as entrepreneurs, as these might be employed as discriminative practices of othering, thus exacerbating social fragmentation and political polarization. In addition, a "sustained normative criticism of neoliberalism" might unravel further cracks in entrepreneurial planning approaches, such as shortcomings of cost-benefit analysis, or the inherent social Darwinism underlying self-organization (Davoudi & Madanipour, 2015, p. 23f).

Entrepreneurial Subjectivities and Neoliberal Governmentality

The spreading of entrepreneurial thinking in planning – if necessary at all – calls for a re-politicisation of debates on entrepreneurship. This process may start with the question: "Who is entrepreneurial and about what?" (Harvey, 1989, p. 6) It would require from planning educators to critically revise the conceptual repertoire of studying entrepreneurship. Two ways seem feasible in this regard: (1) rediscovering the critical study of the entrepreneurial subject in wider social theory, particularly in governmentality analysis; and (2) cross-disciplinary advancements between the fields of planning theory and praxis, and the newly emerging (self)reflexive and (self)critical debates in the fields of studying economics and entrepreneurship.

On the wider level of social theory and planning thought, the prime suspect theorist for critically engaging with entrepreneurship is Michel Foucault (2008) and his notion of the "entrepreneur of the self" (Dilts, 2011). The role of the individualised 'enterprise of the self' in neoliberal governmentality

is ideally depicted as the site of all innovation, constant change, continual adaptation to variations in market demand, the search for excellence, and 'zero defects'. The subject is therewith enjoined to conform internally to this image by constant self-work or self-improvement. His or her own expert, own employer, own inventor, and own entrepreneur: neoliberal rationality encourages the ego to act to strengthen itself so as to survive competition. All its activities must be compared with a form of production, an investment, and a cost calculation (Daradot & Laval, 2014).

Neoliberal governmentality sets as its key objective the self-exploitation of self-optimizing competitive and individual subjects who enter a fierce competition with one another. The working subjects must constantly strive to be as efficient as possible, appear to be totally involved in his or her work, perfect himself or herself by lifelong learning, and to accept an ever-greater flexibility (*cf. ibid.*, 2013, 263). As their own expertise, employability, inventiveness and entrepreneurship are constantly assessed against forms of investment profitability and cost-effectiveness, the individual subjects adopt rationality, which "encourages the ego to act to strengthen itself so as to survive competition" (Daradot & Laval, 2013, p. 263).

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A genealogical account, which considers planning as a form of governmentality centred on the spatial management of a population (Huxley, 2002), critically registers the regimes of planning truths at work in framing planning as entrepreneurial: These may become employed through the figure of the “*homo oeconomicus* – a subject of governmental rationality serving as a grid of intelligibility between the government and the governed” (Dilts, 2011, p. 130, original emphasis). Many entrepreneurial governance and planning approaches replace “*homo oeconomicus* as a partner of exchange” with “*homo oeconomicus* as entrepreneur of himself [or herself]” (Foucault, 2008, p. 226, own insertion). In this view the subject assumes own responsibility for own capitalist growth, own production, and own source of earnings (ibid.).

A Foucauldian understanding of truth claims in planning would entail self-conscious thinking about both the production of the regime of truth, as well as its enactment in and through planning procedures and planners’ practices and discourses (Dilts, 2011; Huxley, 2002). The nourishing of counter discourses in the planning debate would then be an important feature of fostering the collective capacity of planners and citizens. “[I]f the competitive neoliberal market economy demands particular kinds of entrepreneurial, future-oriented, self-sufficient and individualistic selves” (Allen *et al.*, 2014, p. 4), then a planning tradition which would highlight “a desire for modes of caring and common forms of social and common economic relations” (ibid., p. 4) could be considered as an emerging and utterly needed counter project. Such a project would fall in line of Foucault’s idea of counter conduct, defined as a form of movements which resist “direction by others” through defining and enacting for each “a different form” to conduct oneself (Foucault, 2009, p. 259). In addition, two aspects are central when using governmentality analysis as a critical social theory approach for advancing research on planning and entrepreneurialism: First, to acknowledge Foucault’s late focus on a shift from ‘entrepreneur of the self’ to an ethics of ‘care of the self’ (Dilts, 2011), and secondly, to recover his continuous emphasis of ‘critique’ (Foucault, 2007).

As regards the ‘care of the self’, Dilts (2011) identifies in Foucault’s late work a sympathetic turn towards ethics, an “ultimately critical response to the emergence of neo-liberal subjectivity, governmentality, and biopower” (p. 132). By promoting the “care of the self” Foucault is in fact deeply interested in the space opened up by neo-liberal subjectivity, which ultimately negates sovereign subjectivity (ibid., p. 143):

[B]ecause all practices are experienced as choices, and therefore are already taken as practices of freedom, neoliberals never take account that this is the moment where they are a part of an ethical project. By insisting that actors are rational because they are responsive, they sacrifice any possibility of being **critical** (Dilts, 2011, p. 145, original emphasis).

To be critical means to reactivate and renovate a critical attitude which strives to untie the subject from the neoliberal loop and encourage proliferation of counter conducts (Pelegri, 2017). These counter conducts may “entail the invention of a new ethical subject, which is not to be constituted as an entrepreneur of the self nor will it promote competitive sociability as the only form of coexistence, delegitimizing neoliberal competition and business-subjectivity” (ibid.).

Focusing on Foucauldian analytics of neoliberal governmentality and entrepreneurial subjects is but one possible social theory route to promote a constructive dissent among planning practitioners and theorists; many others may follow or already exist.

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Towards Studying Public Space, Foundational Economy and Critical Entrepreneurship

Another, a more hands-on approach to rethinking the concept of entrepreneurship and ambivalences of its use in planning is to establish cross-disciplinary dialogues with the fields of public space research, foundational economy approaches and critical entrepreneurship studies. While planning thought is usually quick in adopting traditions and breakthroughs from other fields of thought, the recent rise of critical entrepreneurship studies and new approaches to the foundational economy might also change the direction of innovative cross-fertilization: How can ethical and political positionality in planning, for instance, concerning planners' roles in democracy, solidarity and protection of the common good, inform studies on undergoing transitions of entrepreneurship and wider economics?

An insight into OECD's policy discourse on planning and entrepreneurship allows, in a second step, for critical inspection of these recent debates. In a "Territorial Reviews Report" on "Competitive Cities: A New Entrepreneurial Paradigm in Spatial Development", the Organisation for Economic Cooperation and Development (OECD, 2007) states that

the essence of urban entrepreneurialism is to apply innovative thinking to policy planning in a strategic way (...). Such attitude is an essential property not only of competitive private enterprises in the global market, but also of competitive cities in inter-city competition on a global scale. Urban entrepreneurialism should manifest itself in identifying and building up unique local assets, in harnessing 'old policy tools' with totally new perspectives, and in mobilising the collective potential of all the actors in the local economy by motivating and empowering them. The question that a policy planner employing an entrepreneurial approach should always ask himself is just how entrepreneurial his approach is in this sense (OECD, 2007, p. 7).

Largely disregarding the critique of entrepreneurial planning as part of neoliberal governmentality, OECD reiterates the affirmative debate on inter-urban competition, free global markets, disruption and unsettlement through the entrepreneurial approach as well as the mobilisation of an entrepreneurial civil society. Yet on a more subtle level of understanding, the quote also reveals the need for developing further analytical perspectives to study entrepreneurship. Three perspectives will thus be introduced

- The first perspective revisits the role and relevance of local public space in entrepreneurial approaches to planning and urban governance;
- The second prospect deploys a critique of governance frameworks, invites for everyday-theorizing across multiple-scales and actors, and establishes bridges to current innovations in considering economy and everyday life, i.e. the foundational economy debate.
- The third vista stresses the reinterpretation of alternative forms of entrepreneurs and entrepreneurship that lie at the heart of post-colonial debates, both in critical entrepreneurship studies as well as in post-colonial planning theory.

Recent Role and Relevance of Public Space in Entrepreneurial Planning Approaches

As Harvey insisted already in 1989, entrepreneurialism focuses much more closely on the political economy of place rather than of territory (cf. *ibid.*, 1989, p. 7). In this context, governance is introduced as a restructuring mechanism with an "emphasis on the production of a good local business climate" (*ibid.*, p. 11) by luring "highly mobile and flexible production, financial and consumption flows into its space" (*ibid.*, p. 11). The intention behind this political-economic decentralization has been an activation of locally productive potential across

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multiple facets, in the range from commoning practices, solidary uses and socially reproductive relations of care in lived space to the entrepreneurial place-making strategies for the redesign and aestheticisation of public spaces. These processes include but are not restricted to spatial practices of activists, artists, associations, on the one hand, and place-making units of global competitive firms (Knierbein *et al.*, 2018) and public space design strategies of investors' philanthropic foundations promoting their concept of 'benevolent urbanism' (Athanassiou, 2020, forthcoming), on the other.

The main conceptual challenge is to unravel the twisted change in meaning of the concept of public space within the entrepreneurial planning paradigm. By the turn of the millennium, public space had been conceptually recovered in planning theory and praxis "as a critique of the neoliberal phase in urban development" (Madanipour, 2019, p. 45). Two decades later, it has been widely adopted by stakeholders operating within neoliberal governmentality:

This adoption, subsequently, is at odds with the needs for the provision and maintenance of accessible public spaces (...). As public authorities have embraced a more entrepreneurial character and approach, the concept and character of the public space have also changed. The rhetoric of the public space as a space of interaction has remained, but it has become increasingly an instrument of attraction, at the service of unequally distributed economic interests (Madanipour, 2019, p. 45).

Harvey (cf. 1989, p. 12) also noted that urban entrepreneurialism contributes to increasing disparities in wealth and income and displays a tendency towards strong social polarization manifested in an increasing number of people living in precarious and poverty conditions. It is particularly significant, that the shift towards entrepreneurial governance has altered the concept of public space rendering it less inclusive. At the same time the social life which constitutes public space has become – if we focus for a moment on more general tendencies – more encapsulated, individualized and fragmented. This notion justifies a theoretical and political need for a conceptual shift in the opposite direction, centred on a struggle for common, collective and public affairs. In this context, MacFarlane (2012) prompts that "part of the success of entrepreneurial strategies lies in their capacity to capture not just economic trajectories but highly selective interpretations of the active social" (p. 2797). The pressure that entrepreneurial governance exerts on public space can be considered as one of the main originators of increasing patterns of de-solidarisation for and among more vulnerable groups in urban life, and more generally among different social strata in urban societies. These are eventually expressed through (violent) disavowals and political antagonisms in public space (Wilson & Swyngedouw, 2015), besides groups' own claims and objectives that lead to silent or loud forms of stated dissent. Another no less important fact is, as Harvey (1989) notes, that "urban entrepreneurialism (as opposed to the much more faceless bureaucratic managerialism) here meshes with a search for local identity and, as such, opens up a range of mechanisms for social control." (p. 14).

'Top-Down', 'Bottom-Up' or Simply: 'Upside-Down'? Everyday Economies and Everyday-theorizing

The shift to urban entrepreneurialism needs to be analysed as regards various spatial and institutional scales. This idea had been addressed by the conference subtitle "Planning and Public Policy at the Intersection of Top-down and Bottom-up Action" (AESOP YA Online, 2016). This framing exemplifies decades of scholarly efforts in urban studies and planning that use governance as an analytical framework for complex spatial development processes as regards their multi-actor and multi-scalar dimensions. While analytical governance concepts have helped planning scholars to address complexity through a solid structure and commonly

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shared idea, the notion of governance as an affirmative part of neoliberal governmentality has been widely disregarded in planning research that work with analytical governance frameworks. Inherent to considering collaborations among different agents of spatial praxis – for instance professionals, politicians, activists, educators, laypersons – as either ‘top-down’ or ‘bottom-up’ reproduces a certain understanding of the social world, its places and spatial practices.

Civil society is often hurriedly placed at the micro-institutional level (grassroots metaphor), city governments at the institutional meso-level of the urban or regional, and global firms usually at the macro-level of planetary urbanization. Simultaneously an appreciation of lived space and everyday-theorising remains largely ignored by planning theorists (except for e.g. Friedman 2012, who, however, does not render the economic from an everyday perspective). Endeavours to (re)politicise the scrutiny of social planning action as an intermingling of micro-, meso- and macroscales and tendencies at the levels of everyday life and lived space are still widely unrealized in the realm of planning theory and praxis, and in the productive niches between these fields. Pløger (2018) in this respect, has called for planning to overcome its institutionalism and to discover its connection with everyday life and the political:

Planning not only has to work with its institutionalism and mode of conversation, but (...) its mode of procedural decisions. To make contest and strife productive, planning might need a ‘wandering planner’ (...); that is, a planner that listens to and knows the ‘street voice’. It needs a planner that is allowed to work with agonism as a discussant within people’s everyday lives and as an ‘editorial’ organizer of dialogues on everyday life questions, sense of place, aesthetics, design, art, feelings and desires contesting planning (Pløger 2018, p. 273).

But is the focus on planning and everyday life not too far-fetched when considering the potentials and possible pitfalls of entrepreneurial thinking? Drawing on recent publications on the ‘Foundational Economy’, the answer would be: Not at all! The concept of the foundational economy relates to the “mundane production of everyday necessities” or “that part of the economy that creates and distributes goods and services consumed by all (regardless of income and status) because they support everyday life” (Bentham et. al., 2013, p. 7). Also framed as addressing the infrastructure of everyday life (Foundational Economy Collective 2018), it comes as no surprise that the edited volume has been reviewed from different perspectives as ground-breaking and thought-provoking work inviting “new horizons for social, economic and political renewal with their provocative and yet practical proposals for reconstructing everyday economies” (Peck, 2018) and as “a compelling counter project against neoliberalism, restoring collective foundations of everyday life” (Streek, 2018).

Moreover, potential analytical innovations can be put forward by a debate on planning and the foundational economy, helping to revisit the set analytical standards and to activate thinking in the niches between given spheres, scales and structural frames of action. It may allow the planning community to come up with new models of envisioning social action and spatial praxis beyond the static and hegemonic opposition of ‘top-down’ and ‘bottom-up’ through rethinking the everyday dimension of the economy, and dynamic interferences between different institutional spheres, individual and collective actors as well as different scaling processes. In this vein, the role of the state in the aftermath of the world economic crisis of 2008 also needs to be cautiously reconsidered, as “states effectively socialized the massive amounts of private debt created in the financial system and even nationalized faltering financial institutions” (Plank, 2020, forthcoming). As Nölke & May (2019, referred to by Plank, 2020, forthcoming) have stated, “the return of public ownership per se, does not necessarily indicate a trajectory towards progressive and emancipatory change. It simply indicates a return

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to more organized forms of capitalism (Nölke & May, 2019), as opposed to unfettered global restructuring (Bayat, 2013). Unfettered global restructuring has produced social hardship, precarity and has brought populations into new patterns of informalization on top of already existing social divides and poverty.

These populations, however, develop strategies of mass everyday resistance which also challenge Western social movement theory as they are usually carried out in a silent manner which Bayat (2013) has identified as the “silent encroachment of the ordinary”. Thus, rather than thinking institutional spheres as static and in a fixed hierarchic setting resting on two binary directions (‘top-down’, ‘bottom-up’), a shift towards the foundational economy, silent encroachment of the ordinary, and other ways of thinking planners’ roles in strengthening everyday economies and societies is an invitation to turn this mainstream ways of governance inspired thinking in planning ‘upside-down’: To think about space, social and entrepreneurial relations it in a more dynamic, circular and rhythmic way. Thereby, a (critique of) everyday life and lived space on a level of scientific theory, analysis and policy can be re-activated. In this scheme, neither civil society, nor the state, nor the markets are automatically inferior or superior, but the hegemonic relations need to be constantly addressed when starting to develop and use ‘other’ framings.

Critical Entrepreneurship Studies

A third route to take to renew planners’ engagement with economic thinking is to establish cross-disciplinary dialogues between planning and the relatively young scientific field of ‘critical entrepreneurship studies’. As Essers *et al.* (2017,) indicate, “entrepreneurship research has become increasingly more hospitable towards alternative theoretical influences and methodological procedures” (p. 1). The mainstream of entrepreneurship research focuses on entrepreneurship as a rather market- based phenomenon or as a special form of conduct which triggers accumulation and venture creation that causes economic growth (*ibid.*). Against the grain of such functionalist approaches to the study of entrepreneurship, critical entrepreneurship studies break with this tradition in so far as it aims at overcoming the inherent disciplinary parochialism that seeks to understand entrepreneurship “as a ‘desirable’ economic activity, perceived unquestioningly as positive” (*ibid.*, p. 1). This is needed, because an overtly optimistic and affirmative reading of entrepreneurship runs the risk of obscuring important questions about

who can sensibly be considered an entrepreneur and who cannot (...); how entrepreneurship works ideologically to conceal the true state of reality (...) or to make people do things they would not otherwise do (...), or how entrepreneurship fuels inequality and perpetuates unequal relations of power (Essers *et al.*, 2017, p. 1).

Therefore, critical entrepreneurship studies promote critical narratives which pay attention to and acknowledge diverse examples of other forms of entrepreneurship; in other words, approach entrepreneurship by using a pluralism of critical perspectives. By this they contrast somewhat exclusive and hegemonic research traditions on entrepreneurship with empirical evidence that shed a light on different forms and objectives of being and becoming an entrepreneur (*cf. ibid.*). In that sense, critical entrepreneurship studies “assume a proactive stance in seeking to position entrepreneurship as an activity, behaviour or process which can be linked to new ethical and political possibilities” (*ibid.*, p. 2), for instance, when “entrepreneurship is re-conceptualised as a social change activity that moves against the grain of orthodoxy in order to realise spaces of freedom and otherness” (*ibid.*). Critical entrepreneurship studies also

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explore how political and socio- cultural factors influence entrepreneurial processes, identities and activities, and have sought to extend entrepreneurship research horizons by highlighting new critiques and contexts that challenge existing orthodoxies (Essers et al., 2017, p. 2).

Similar to the field of planning theory, also entrepreneurship studies have faced the advent of cultural studies approaches that promote renewed feminist theorizations and bring about post-colonial critique by triggering de-colonizing and equitable research practices. These approaches should not be erroneously coined as mere themes, for they bring about new foundational agendas, claims and goals viewed in terms of theory and politics of science. In the field of critical entrepreneurship and economic studies, research on complexity and multi-scalar approaches (- not new for planners at all -) in economic thinking may promote a de-centred and varied economy which opens up space for a fuller version of inclusive citizenship (Cumbers, 2012). Such a version is necessarily respectful of minority rights, retrieves inspirations from theorization from the urban, regional, global peripheries, critically reconsiders economic and entrepreneurial centre-periphery relations, expands forms of participatory and redistributive economic practices, and caters to the needs of open and inclusive local communities (Rahman, 2017; Plank, 2020, forthcoming).

Post-colonial aspects of entrepreneurship studies challenge “how entrepreneurship research is largely bound by Western organisational discourses” (Essers *et al.*, 2017, p. 3) with the purpose “to call into question the hegemonic performativity of conventional discourse about heroic (white male) styles of leadership in entrepreneurship” (*ibid.*, p.3). In this respect, it seems particularly interesting to look at the work of so-called policy entrepreneurs (Kingdon, 1995) who in the field of (global) urban policy purposefully look for new paths and mobilize other actors for their case. Usually, these show up as discursive elites, behave like doyens to place their topics and creative new discursive agendas (cf. Güntner, 2007, p. 50). UN Habitat Resilience Unit is one of these policy entrepreneurs. Mitrenova (2017), in this respect, has empirically shown and conceptually challenged how planning and policy discourse on UN Habitat’s Urban Resilience Schemes, in their key strategic policy documents, deploy exactly the above mentioned Western organisational and entrepreneurial discourses, both in textual form as well as by their choice of images: In these policy documents, economic leadership is rendered as a male, white and individual form of successful entrepreneurship, whereas social vulnerability is represented through mostly female, non-white, weak-state-based collective forms of self-organization, and related precarity. In respect to the post-colonial critique of such debates, new forms of leadership need to be studied that reveal other ways in which routines can become settled and leadership can be enacted culturally through participation and inclusivity, as opposed to unilateral command, central management and hierarchical control (cf. Essers *et al.*, 2017, p. 3f). Leadership, in very spatial tropes, can also include a key idea of creating ‘spaces of belonging’ while critically analysing how and to what extent co-creation of entrepreneurial action strengthens or weakens the respective neighbourhood (cf. *ibid.*). Essers *et al.* (2017, original emphasis) stress that researchers ideally use “various feminist lenses” to explore and explain “how gender and *entrepreneurship* come together to generate different experiences of entrepreneurship” (p. 5). These provoke an understanding of how non-male forms of gender have been excluded from the dominant entrepreneurial discourse, how women are often assigned with deficit and lack as entrepreneurial subject beings but also how women’s and queer experiences of business ownership are altering contemporary conceptions of entrepreneurship (*ibid.*). In this sense “feminist theory has emerged as a convincing theoretical critique to expose the limiting gendered bias within the current entrepreneurial project” (*ibid.*, p. 5, referring to Calas *et al.*, 2009).

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Further strands in critical entrepreneurship studies seek to understand how traditional entrepreneurship studies deepen divides based on “an archetype of the white, Christian entrepreneur – which marginalises ‘Other’ ethnic entrepreneurs” (ibid., p. 4). Research on ethnic entrepreneurship in planning and urban studies has also produced challenging empirical insights: In his research on Romanian migrant communities in Brussels, Meeus (2017, p. 91) has shown that the “discursive construction of migrants as entrepreneurs” in developmentalist approaches contributed to viewing returning migrants “as risk-taking subjects” whom “states and development institutions (...) increasingly imagine (...) as ideal ‘development’ partners” as they may “embed and extent competitive market rationalities into everyday social relations and institutions” of their original countries upon return. This image of returned citizens who have re-educated themselves through experiences abroad has important de-politicising consequences (Meeus, 2017, p. 91, referring to Mullings, 2012, p. 407). While the concept of ethnic entrepreneurship thus needs to be analysed by paying attention to its inherent ambivalences, it may also bring about empirical evidence of innovative search for new solidarities (Meeus, 2017). In this type of research, it is of key relevance to learn how other entrepreneurs construct their entrepreneurial identities in relation to their particular identities, and how this challenges public discourses about certain minorities (Essers *et al.*, 2017). Scholars in this tradition also problematise prevailing tendencies to view entrepreneurship as an unfettered route to social mobility for ethnic minority and immigrant groups. They argue that the conceptualisation of ethnic minority entrepreneurship needs to recognise the diverse economic and social relationships in which firms are embedded (cf. ibid., p. 4f).

Also, particularly when analysing different forms of entrepreneurship which form part of neoliberal governmentality, the importance of (informal) small business ownership, an economic activity often seen as ‘marginalised’ and less ‘real’ entrepreneurially in mainstream entrepreneurship literature, must not be overlooked (cf. ibid., p. 4, MacFarlane, 2012). MacFarlane (2012), in this respect, has pointed to a niche in urban entrepreneurship studies, as informal poverty and the entrepreneurship of the urban disenfranchised has been largely absent, which stands in stark contradiction to empirical evidence (cf. p. 2798).

While informal settlements remain predominantly and stubbornly understood by states and international institutions as outcast spaces of the modern capitalist city, or as simply a cheap labour force, they are also increasingly viewed as an immense set of untapped markets and potential capitalist subjects (MacFarlane, 2012, p. 2798).

As formal entrepreneurial activity imposed by forms of entrepreneurial planning can contribute to legitimising the exploitation and marginalization of informal entrepreneurship of disenfranchised groups by “continuing to colonise their discourses, identities and daily lives” (Essers *et al.*, 2017, p. 4), planning scholars need to question “this neoliberal practice in order to further decolonise and expose its exploitative nature. By decolonising, they seek two things: first, to reconstruct entrepreneurship as an emancipatory creative activity that builds solidarity among all communities; and second, an entrepreneurship that redistributes economic power and helps communities on a sustainable path” (ibid., p. 3). Seen from another side, Aiwa Ongg has emphasized that “techniques and models of entrepreneurialism extend to all manner of groups and spaces, including NGOs, activists, workers’ organisations and aesthetic/cultural production, many of which are co-opted because they fit with the technologies of a broadly entrepreneurial script for the future”. This insemination on an ubiquitous entrepreneurialism has been coined by Ananya Roy as a neoliberal populism that celebrates poor people’s agency and entrepreneurship (MacFarlane, 2012, p. 2798, referring to Ongg, 2011 and to Roy, 2010).

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Critical entrepreneurship studies thus re-evaluate which forms of entrepreneurship contribute to democratic, collective and common purposes from a feminist and worlded stance in theorizing, and discuss new ideas of entrepreneurship particularly as regards forms of entrepreneurship in disenfranchised communities with a focus on counter-conduct of the urban subaltern. It engages with their ongoing struggles, lives and experiences and asks how new forms of entrepreneurship work towards social equity and more cooperative forms of democracy-making.

Fresh Ideas on Entrepreneurship and Pluralist Approaches to (Self-)Critique

While working through new potential fields with the aim to revisit the concept of entrepreneurship, in other words to twist and turn it in order to make it meaningful for an informed and reflexive public and civic planning community, more questions, ambivalences and doubts have been raised. For those readers looking for solutions, a first hint points to the fact that these cannot be global and easy-to-fix entrepreneurial strategies, but need to be much more place- and society-specific entrepreneurial visions, relational and nuanced in nature. The foremost suggestion for researchers is to start from the assumption, that there is no good or bad entrepreneurship per se, but rather we need to start from acknowledging an array of ambiguous, ambivalent and constantly altering forms of entrepreneurship. A central question here is to what extent entrepreneurs employ a reflexive and (self)critical approach to potential shortcomings and aporias in entrepreneurship debates themselves (critical entrepreneurship), and to what extent their chosen form of entrepreneurial activity may also serve more collective, democratic, inclusive and solidary goals. For this new spectrum of entrepreneurial action, we need pluralist approaches to theories, methods and evaluation. We also need a clear research ethics that first deconstructs exclusive, non-democratic or chauvinist notions of entrepreneurship. As a second step, it is of key relevance to question which regimes of truth are invested in entrepreneurial planning's organisation of space and the related territorial management of the population. This is about finding alternative ways to frame counter conduct, not just on the level of spatial praxis, but also as regards the way we approach planning research and research ethics when discussing planning and entrepreneurship, particularly in relation to everyday life and lived space.

As follows, the contributions to this PlaNext special issue on "Planning and Critical Entrepreneurship" (Vol. 7) will in very different ways reveal to what extent the authors and entrepreneurs and their strategies are (self)critical and reflexive of the wider socio-spatial context. Invoking on the multiple meanings of the original French verb *entreprendre*, its differentiated linguistic meanings - and likewise our young scholarly authors - invite you to take action, to try and persuade someone, to dabble at something, to taste something, to tempt someone or to simply dare the impossible.

Contributions in this volume embrace a wider set of concepts, among them:

- Part I. Social Entrepreneurship and Disruptive Disciplinary Thinking;
- Part II. Planning Innovation, Evaluation and Technology;
- Part III. Adaptive Governance and Reflexive Policy Design;
- Part IV. Environmental Justice, Social Responsibility and the Built Environment;

The first **Part I. Social Entrepreneurship and Disciplinary Thinking** features two articles on social entrepreneurship and planning education and on new tactical forms of planning and architecture: Hefetz and Kallus present their contribution on "**Educating planners as social entrepreneurs**", while Guadalupi catches "**Glimpses of A New Profession Within Tactical Urbanism**".

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Shelly Hefetz and **Rachel Kallus** approach social entrepreneurs as individuals or groups of individuals looking for effective ways to create social change in, with and for different communities. Entrepreneurs may have social or more altruistic motives, yet at the same time they can also promote their own social agendas, values and goals. The authors state that NGOs challenge planners to become social entrepreneurs, and use different relevant frameworks to work, that is, public participation (unilateral vs. radical-collaborative) and community-based pedagogy (community engagement, learning by doing, guided reflection, university community partnership). To educate planners on how to work effectively with communities, more experiential forms of teaching should be combined with planning theory and praxis, as the empirical results of the study raise questions about the rather theoretical nature of community planning courses in Israel that are said to lack hands-on involvement with the field, and engagement with real communities. This also means acknowledging that planning research as well as planning education is a political act, and even more so in highly divided societies.

Camilla Guadalupi describes, in her article, how architectural and planning professions have undergone internal transitions in times of crisis, recession and high unemployment. While exploring new labour market opportunities, they experiment with self-initiated projects, new forms of financing and alternative organizational structures. Their tactics tend to promote incremental adaptation in a pragmatic, opportunistic and rhizomatic way. Flexibility in (political) positionality is seen by these tactical entrepreneurs as autonomy. As crossbench practitioners, they use disruptive practices, employ agonistic modes of participation and invent new spatial practices to unsettle the established planning standards. They develop transgressive practices that break rules and regulations of commissioned projects, open design processes to users and thereby 'hack' the routines of the institutionalized profession. This creation of new expert authority is interpreted as a political process which bears emancipatory expressions. While architect-entrepreneurs address the precarisation of social conditions of their work, they expose the inherent contradictions of the profit-driven logic of the institutional framing which works as an oppressive form of governmentality.

In the **Part II. Planning Innovation, Evaluation and Technology**, Luque Martín and Izquierdo-Cubero foster an "**Understanding [of] the added value of rooting geotechnologies in planning practice**", whereas Ragozino introduces social-return on investment schemes for improving the assessment of the "**Social Impact Evaluation in Culture-led Regeneration Processes**".

Irene Luque Martín and **Jorge Izquierdo-Cubero** ask how technology-based planning support systems (PSS) can be used for realizing context-specific and relational planning interactions? Using a combination of qualitative and quantitative methods, they analyse 'urban vitality' rates of an old city centre, the 'Intramural' in Jerez de la Frontera (Spain). Are the old buildings un(der)occupied or rather (badly or well) used? On a fine-grained empirical level, a data-mix combines statistical geo-data and data on water provision. As urban decline cannot simply be captured through decaying physical housing stock, PSS can help to decipher use patterns, demographic changes, and emphasize still existing activity in particular housing units. By means of an urban diagnostic document and a public participation process, awareness is created among the residents and policy makers. The innovative use of existing planning technologies fostered a shift in public policy, away from sustaining resource-intensive suburbanization towards the sustainable recovery of the old city centre with and by its residents.

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Stefania Ragozino debates how the social impact of social enterprises can be evaluated in urban cultural regeneration. She modifies the social return on investments evaluation scheme by integrating analytical factors from debates on complex cultural landscapes relating to cultural heritage debates. Cultural heritage discourses range from democratization and emancipation to commodification, commercialisation, and risks associated with lobbyism. That is why they need to be better integrated into public planning policies and practices. An evaluation of social enterprises adapted to spatial and planning research objectives can play a role in finding an effective way to pursue these ends, because hybrid organisations such as social enterprises link or mediate between conflictual actors, actively engage the local community, and change urban and social priorities. Social enterprises may improve planners' focus on the conditions of daily life and urban experience, and enhance stronger connections to places. By linking complexity, multifactorial analysis, place-specificity and community-orientation, the chosen approach may help to integrate equitable planning considerations into cultural regeneration processes.

In **Part III. Adaptive Governance and Reflexive Policy Design**, Chang asks “**How Urban Planning Practices contribute to Adaptive Capacity Building for Economic Resilience**”, whereas Bruck poses the question of “**How to Plan for Transformative Change in light of New Mobility Technologies**”.

Robin. A. Chang analyses processes of adaptive capacity building as regards temporary uses. With the focus on temporary uses in Bremen (Germany), a city particularly struck by socio-economic decline, social processes are examined that mirror paradigmatic shifts in planning which no longer strictly dichotomize the formal and informal. Temporary users who build up organizational capacities and learn how to engage in urban governance become increasingly entrepreneurial. This offers new innovative potential as they fill important gaps in urban development, yet also carries risks of an increased social and economic vulnerability due to users' temporary, and unsettled status. The author's focus rests on experimentation and wider indicators of social learning and collective action. For the case when temporary uses serve as a catalyst for strengthening collective action based on a common social interest, it is the social capacity for economic development which contributes additional dimensions to entrepreneurship, for instance, by widening and opening decision-making towards more explorative forms of democracy.

Emilia M. Bruck introduces real world laboratories² to test reflexive planning theories in the field of new mobility technologies. Discursive parallels between activist and social movements' ways of developing space, and the second-order reflexivity approach in transition studies can be identified: Reflexivity is used to generate critical knowledge and dialogue in open-ended processes by recognizing non-linear, cyclical temporalities in urban development. A focus on emergence is heralded as a capacity to address the unforeseen, continued social learning,

² The real-world laboratory may come across as a step forward in terms of speed and innovativeness in science-production as it involves flat hierarchies and entrepreneurial spirit when doing research. It does, however, not go without a fierce critique of rendering complex social problems (in one of the richest regions in Germany) as easily solvable, without tackling the deeper structural constraints that planners usually need to address in dialogue with politicians and across different policy fields. While reflexive planning strategies can enable the adoption of various perspectives, they also aim at balancing multiple truths. Questions remain whether these hybrid approaches tend to depoliticize democratic decision making and blur the difference between factual knowledge and morally justified action, which calls for further empirical research in the critical tradition of planning theory. Also, what is considered as 'real world', at last, is to be defined by those who habit the space and will result in a very nuanced and differentiated picture of 'real worlds', which are surely not a 'laboratory', understood as a site for experimentation with the civil society. Rather, joint explorations need to clearly articulate researchers' positionality and research ethics when dealing with hopes and raising expectations of local populations.

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and agency's transformative potential. This transition in urban development is grasped by analysing living labs in Stuttgart (Germany): new collaborative forms of research between universities, businesses and civil society. The wake of new mobility technology calls for more reflexive and careful policy making. When public planning encounters immersive technology strategies, planners are invited to speed up dealing with the velocity and transitional character of these new innovative entrepreneurial strategies introduced by highly innovative yet often socially unaware market players.

In **Part IV. Environmental Justice, Social Responsibility and the Built Environment**, an analysis of sprawl in US cities is offered by Tsoulou in a contribution titled "**Investigating Links Among Urban Sprawl and Environmental Justice Indicators in US Territories**". Rhomberg searches for theoretical foundations of "**Social Responsibility for Architects in a Global Construction Practice**".

Ionna Tsoulou develops new ways of quantitative enquiry to study urban sprawl in the United States. She argues that there is a missing data and research link between debates on environmental justice and research on socially vulnerable populations when it comes to the study of the built environment across US cities. Starting from the finding that there is an uncertainty in terms of what sprawl really means and what would be the best way to measure it, the phenomenon is then limited by addressing a particular form of dysfunctional urban growth which is real, measurable and has measurable consequences for people. Tsoulou illustrates that the study of sprawl needs to be more closely aligned with the indicators of assessing environmental (in)justice in the built environment. Need for further empirical research has been identified, particularly at the micro-level. Further research should not only issue concern of reducing sprawl in general, but also reduce those specific features of suburbanization that put particularly socially vulnerable population groups at an environmental risk.

In the last article, professional ethics of transnational work relations in architecture are discussed by **Clarissa Rhomberg**. Starting from the idea that entrepreneurship is aligned not just with economic leadership, but also with social and environmental responsibility, Rhomberg focuses on working conditions on global construction sites and asks how ethical professional engagement with good professional worker-protection standards can be inseminated into (transnational) production chains of architectural projects. By conceptualising the role and nature of (ideally) socially responsible architects and architecture firms in the context of rapidly growing global construction markets, an imperative to reflect on the responsibilities and duties of globally practising architects and firms is formulated, calling for a global code of conduct and fair construction (self)regulation. At the same time, planning and architecture education need to promote a lived culture of fair building and provide ethics and human rights courses to embed social principles of justice and inclusiveness into architectural practice.

Contributions to this special issue will likely not provide answers to the initially posed question if planning practitioners and theorists should or should not take new routes towards an entrepreneurial paradigm in planning. Aforementioned contributions hint to the fact that there is already an entrepreneurial culture inseminating planning cultures, which often carries with it the liberal desire to diminish and abolish public planning and state regulation in favour of self-regulated markets. However, with the collapse of neoliberalism and the world financial crisis of 2008 and a successive decade of emerging new authoritarianism and political backlashes towards new nationalistic enclosure and socio-political polarization (Hou & Knierbein, 2017), it is clear that strong public planning bodies are needed more than ever, particularly once we rediscover and revisit planning's potential contribution to democracy-making. Also, further research in specific place-based contexts needs to unravel to what extent

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entrepreneurial discourses contribute to wider democratic agendas promoting a new balance between equality and liberty, or rather add to a growing climate of social de-solidarisation and political polarisation. At the same time, planning needs to find ways to innovate from within by catching inspirations from democratic practice, public space, and civic struggle on the one hand, and also by promoting approaches to entrepreneurship and planning that first start to de- and reconstruct the very concept of entrepreneurship. We have shown three routes for planning analysis that may help to come up with narratives about other forms of entrepreneurship: (1) public space research; (2) foundational economy approaches, and (3) critical entrepreneurship studies. Therefore, and as conference organizers have suggested, a radical widening of the concept of entrepreneurship through the lens of critical entrepreneurship studies and new approaches to connect economy and everyday life, i.e. foundational economy debates, might offer a first way to de-colonize, world and diversify our notion of entrepreneurship as to include non-western, non-white and non-male versions of entrepreneurship and innovation as equal forms of entrepreneurial habitus. Also, the role of religion in framing biases on entrepreneurship in planning needs to be studied and pluralised. Finally, this is also a call for place-based and contextualised case studies in planning research that try to address entrepreneurship through approaches of everyday-theorising in which 'bottom-up' and 'top-down' approaches become unsettled and torn 'upside-down', in favour of a more dynamic understanding of how processes of scaling and different institutional spheres act upon the making of lived space and everyday life.

The way we discuss innovation should promote studies about open innovation that is radically open and transparent especially for the public in all stages of the innovation process. We need to sideline this debate with concepts to social, civic and public innovation which public planners can make use of to achieve wider collective, common and democratic goals, rather than simply taking over business' friendly jargon and business economics' rationality to disrupt settled routines. Central questions here are: "How should planning and public policy react to these developments, should they confront, embrace or even become part of them? How can planners become more responsive and flexible while still being accountable, just and democratic?" (Gilliard *et al.*, 2017, p. 96). It is time for changed planning theories and practices on new critical entrepreneurship. The AESOP Young Academics community, PlaNext as an Open-Access Journal, as well as public universities promoting free choice of research themes, collective learning cultures and equal and free access to higher education are particularly suitable fora to further explore these trends, and their inherent ambivalences.

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Educating Planners as Social Entrepreneurs: The Potential of Community-based Professional Training

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This article reports on the findings of a study that examined and evaluated the applicability and feasibility of community-based knowledge (CBK) in planning education in Israel. Based on research findings, the paper explores different approaches and attitudes to CBK in planning, as well as ways to implement community-based pedagogy (CBP) in professional training. The connection between planning knowledge and pedagogy is explored in order to understand the role of academia in professional training and its potential in establishing a toolbox for current planners. We discuss these challenges, and present a framework for implementing the skills required for educating planners as social entrepreneurs.

Keywords: community-based knowledge; planning education; community-based professional training; university-community partnership.

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Introduction

The use of the terms "social entrepreneurship" and "social innovation" has gained popularity in research and practice in planning (Bartlett, 2005; Drewe et al., 2008; McFarlane, 2012; Van Dyck, 2011). "Social entrepreneurs" are often defined as individuals, or groups of individuals, who "look for the most effective methods" (Dees, 1998, p. 1) to create social change in, with, and for their communities, while promoting their own respective social agendas and values (Alvord et al., 2003). This article questions the knowledge and professional skills required by urban planners to approach social challenges not just *for* but mainly *with* communities. These questions focus on planning education and how it could be used to impart knowledge and skills that allow planners to work effectively *with* designated populations and not merely *for* them. Following other researchers dealing with planning education, (Alexander, 2005; Edwards & Bates, 2011; Friedmann, 1996; Frank, 2006; Poxon, 2001; Saghir & Sands, 2015), our goal is to examine current developments in planning theory related to community-based knowledge, how it is included in the planning curriculum and how it is aligned with appropriate pedagogy. We focus on the implementation of community-based knowledge in Israeli planning education, considering this academic setting and its specific context.

As a result of the dramatic changes in the planning discourse worldwide during the twentieth century, research has reconsidered planners' profiles, to assess the skills and knowledge required by professionals and how they obtain them during their academic training (Alexander, 2005; Edwards & Bates, 2011; Friedmann, 1996). The transition from modernist perceptions of planning brought with it an emphasis on relevant knowledge outside the profession, as well as outside academia and planning departments; most notably from communities and individuals with no academic or professional qualifications in planning (Rydin, 2007). Consequently, the concept of local knowledge was introduced, its relevance to planning illuminated, and its inclusion in planning education considered (Angotti et al., 2011; Bose et al., 2014; Fenster, 2009; Kotval, 2003; Tal et al., 2015; Winkler, 2013).

The credibility and legitimacy of local knowledge in research and teaching, as well as in policy and decision-making has been controversial and thus widely debated (Corburn, 2007; Fenster & Yacobi, 2005; Innes & Booher, 2010; Moore, 2010). Many planners experienced what Taylor & de Loë (2012) defined as "epistemological anxiety" i.e. a reluctance to use local knowledge (Innes & Booher, 2010). A similar anxiety was found among academics (Moore, 2010) and obviously among public officials (Taylor & de Loë, 2012).

In order to better understand the professional potential of local knowledge, we rely on Reed's interpretation of local knowledge and its use (Reed, 2008). Reed suggests that when engaging with communities during planning, not only do these communities offer their expert local knowledge, but the process also involves various players who, together with experts and policymakers, share information and participate in joint learning. In line with this notion, in this article we refer to community-based knowledge (CBK) as an outcome of an engagement process combining three types of knowledge: local, professional, and scientific.

The inclusion of CBK in the planning process is related to the planner's profile and issues such as status, public standing, and role in decision-making (Alexander, 2005; Innes, 1997). The making of the professional is conducted under academic responsibility, with a direct bearing on professional conduct and the profession at large (Angotti, et al., 2011; Reardon & Forester, 2016). It is thus worthwhile to examine and evaluate the applicability and feasibility of community-based *knowledge* in planning education, as well as the means with which it is imparted via community-based pedagogy (CBP).

This article reports on the findings of a study focused on Israeli planning education. It opens

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with a short review of community-based knowledge (CBK) and community-based pedagogy (CBP) in planning education, followed by a focus on our study of planning curricula in four planning programs in Israel. A comprehensive analysis of syllabi has identified three main pedagogical themes that pointed out fundamental differences among courses. These themes draw attention to the impact of agendas and related teaching methods of each course, and thus, the connection between *knowledge* and *pedagogy*. It allowed us to examine different planning approaches and attitudes to CBK and to consider ways to implement CBP in the educational process. Finally, we discuss the challenges of our findings and consider a framework for implementing the skills required for educating planners as social entrepreneurs.

Community-Based Knowledge and Pedagogy in planning education

Community-based knowledge in planning theory and practice

Planning history demonstrates continuous debates on the relevant knowledge required by professionals, and the optimal manner in which to integrate this knowledge in planning education (Brooks, 2002). Since the late 1960s, planning scope has been broadened and relevant knowledge identified in different sources. Analysis of the data has rejected "one single truth" and looked for different methodologies to uncover a diverse range of knowledge (Fenster, 2009; Oranje, 2002). This diversity of knowledge has been contended and achieved in many ways, depending on time and location (Fischer, 2000). It is quite clear nowadays that knowledge is not solely dependent on the expert, or embedded in scientific research, but that it is also available from other sources, including local communities and lay people, but its mining is largely influenced by power relations and the political position of different interested parties (Flyvberg, 2003).

Shifts in the perception of planning knowledge have affected procedural approaches and paved the way for shared and participatory processes in which residents are involved in planning and decision-making (Corburn, 2003). Berman (2017) suggests to divide the concept of "public participation" into two different practices: (1) "unilateral participation" and (2) "radical-collaborative participation." This division relates to the players leading the process, the means of action, and the products. As suggested by Berman, the "unilateral participation" approach is top-down, usually statutory and based on one-sided procedures. Conversely, the "radical-collaborative participation" approach is bottom-up, used by non-governmental institutions, and encourages residents to initiate and motivate the participation processes. On the spectrum between these two approaches, Berman suggests two others: "improved unilateral" that perfects the "unilateral" approach, and "network participation," which utilizes more collaborative methods. Berman's distinction is directly tied to developments in the past two decades, during which planning discourse and practice started to take radical steps toward including the public in planning processes, often outside official domain.

Non-official planning (Yacobi, 2007) and the spontaneous attempts by individuals or groups to manage their lives (Law-Yone, 2007) have emphasized planning approaches derived from daily routines (Jarvis et al., 2001) and the potential of self-organization (Alfasi & Portugali, 2009). The realization of local challenges (Marcuse, 2009) along a need to address underserved and marginalized parts of society (McFarlane, 2012; De Souza, 2006) surfaced a neo-pragmatic planning approach (Forester, 2013). Unlike official top-down planning, current urban dynamics and conflicts enable communities to take hold of their future. Social-activists and NGOs play an important role in promoting alternatives to institutional planning, challenging the traditional role of planners, and encouraging planners to become social-entrepreneurs (Dekel *et al.*, 2016).

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The discussion of planners' profiles (Dalton, 2001; Forester *et al.*, 2001; Steele, 2009) realizes the importance of knowledge, including what is acquired during professional education and training (Frank, 2006; Stiftel, 2009). A large amount of research has been devoted to academic programs and the way they shape professional approach (Edwards & Bates, 2011; Friedmann, 1996; Frank, 2006), including the discrepancies between what has been learned in professional training and current theory and practice (Alexander, 2005; Edwards & Bates, 2011). The complexity of the field is often associated with three factors: the diversity of professional localities (Sanyal, 1990; Watson & Odendaal, 2012); the organizational characteristics of planning departments (Ashley & Vos, 2015; Stiftel, 2009); and the way the academic community perceives the profession and vice versa, including relevant knowledge and training needed to make an apt professional (Chettiparamb, 2006; Edwards & Bates, 2011; Kotval, 2003).

There is no conclusive answer regarding the skills and knowledge planners must acquire during their training, nor established appropriate teaching methods to train a planner. Research shows the need to assimilate in professional training social substance along with suitable tools, such as communication, mediation, negotiation, ethics, and criticism (Alexander, 2005; Dalton, 2001; Harwood & Zapata, 2014; Kotval, 2003; Nagy & Edelman, 2014; Ozawa & Seltzer, 1999; Saghir & Sands, 2015); yet, planning departments struggle to integrate these knowledge and skills in planning curricula (Stiftel, 2009).

Community-based pedagogy in professional training

In the mid-20th century, John Dewey called upon the American academy to advance toward progressive teaching methods, encouraging students to gain experience by confronting real-life situations (Moore, 2010). Community-based pedagogy is a similarly progressive teaching approach that promotes experiential and applied learning (Zlotkowski & Duffy, 2010; Johnson, 2017). It reiterates academia's commitment to social justice and human rights and its traditional role as a promoter of democratic values and civic engagement (Soria & Mitchell, 2016). In the United States this pedagogical approach manifested mainly in service-learning (Butin, 2010), but largely it promotes social empowerment through the connection between academic training and the goals of a particular community (Hardin *et al.*, 2006).

Dallimore *et al.* (2010) identify three major components of community-based courses, community engagement, learning-by-doing, and guided reflection. Roakes and Norris-Tirrell (2000) develop a four-part framework for including service learning courses in planning education. Their framework includes an emphasis on the different *ways of understanding*; the value of *human experience as a source of learning*; the requirement for *reflective thinking* to transform experience into learning; and an ethical foundation that stresses *citizenship* of the community, the profession, and the public at large.

Wight *et al.* (2016) note that community-based courses offer reflective learning, which allows students to recognize the complexity of professional practice both in and out of the classroom. This reflexivity is not neutral, but rather immersed in political and social encounters. Research conducted into reflective and ideological learning emphasizes the importance of experiential teaching methods (Farnsworth, 2010). Shriberg (2002) and Cortese (2003) suggest to combine theoretical knowledge with experiential knowledge in the curriculum, in order to include actual social involvement, outside the classroom and on the ground. Similarly, Lucas (1980) claims that the foundation of reflective learning is composed of learning about the field, as well as learning from, with and for the field.

Research pointed to the connection between community-based pedagogy and qualitative research methods (Eizenberg & Shilon, 2016), although, according to Johnson (2017),

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community-based approach can benefit also from quantitative research. Surveys and demographic data analysis may assist in understanding existing conditions and could provide background information for qualitative research. In this way, community-based courses expose students to different types of material and to diverse tools with which to digest this material, all of which reveal the complexity of the social phenomena of planning and the existence of multiple truths.

Community-based pedagogy often requires community-university collaboration, although it depends on the types of partnership and partners (Dallimore *et al.*, 2010; Reardon, 2006). Research conducted by Meron (2012) in urban planning and design departments in the United States found that the way the department works with communities depends on the type of partnership selected by the university. These partnerships include, for example, the development of unique degrees and programs that involve community-based pedagogy, establishing internal and external research institutes involving communities, or developing community-engaged courses that are embedded in professional training programs. Based on a study conducted by Schramm & Nye during the 1990s, Reardon classified three types of community-university partnerships in professional education (Reardon, 2006, pp. 96-97): (1) *Paternalistic Theory-Testing Partnerships*, which uses the community as a laboratory to verify its theory; (2) *Professional Expertise Partnerships*, in which the university controls the process, but the community is still partially involved; and (3) *Empowerment Capacity-Building Partnerships*, which empowers the community as a full participant in the process. The partnership type affects the knowledge, skills, and values acquired by students during their professional training.

Community-Based Knowledge in planning curricula in Israel

Planning education in Israel

Planning education programs in Israel are offered as a master's degree (MCP). Students enrolled in the programs come from backgrounds in design, social sciences, or humanities. Working as a planner in Israel does not require a license or official accreditation, therefore, academia holds the mandate on the curriculum. However, professional education is not neutral to external influences and diversions. Academic institutions and the higher education system are funded and regulated by the government through the Council of Higher Education. In fact, in many cases academia works hand in hand with different political groups and professional organizations. Although writers have noticed how planning can be used by the government to influence its society and to control its territories (Yacobi 2009, Yiftachel 1998), the question regarding the political impact on planning education in Israel has yet to be studied and was not looked at in our research.

Planning education was first established in Israel in the 1970s and the curriculum was first based on leading planning programs in the United States. The local context was integrated into the curriculum through the inclusion of practice-based experience, most of which is founded on British-Mandat planning by-laws and land regulations integrated in planning rules established by the state. The first urban and regional planning program was established at the Technion. But in the last decade, with the profession gaining popularity, three more programs have been recognized by the Israeli Planning Association as official training programs, and more schools have become interested in opening such programs.

The study of urban planning education in Israel examined in-depth four programs based in four public universities: The Technion - Israel Institute of Technology, Tel Aviv University, The Hebrew University of Jerusalem, and Ben-Gurion University of the Negev. The study included

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interviews with 12 key figures in these programs and analysis of the curriculum offered during the 2015-2016 academic year, including 4 catalogs and 207 syllabi.¹ After analyzing the core curricula, syllabi found to have relation to CBK ideas were examined in depth, although it is obvious that these syllabi hold only partial information about courses' content and methods (Klosterman, 2011). A keyword search led to a detailed examination of the 91 syllabi found to be related to CBK. For each syllabus, five main characteristics were examined: hierarchy in the program; relation to core subjects; pedagogical approach; knowledge and skills; and operational models. In a final iteration, 60 courses were identified and analyzed in depth.

Table 1. *Community-Based Knowledge and Pedagogical Approach.*

Pedagogy	Type	Definition
Traditional	<i>Community-Based Theory</i>	Theoretical knowledge from several disciplines (e.g. sociology, anthropology) concerned with community-based aspects
	<i>Community-Oriented Theory</i>	Theoretical knowledge and case studies related to specific communities
	<i>Tools and Methods</i>	Professional and technical tools used for planning with communities
Experiential	<i>About the Community</i>	Main Objective: to experiment with relevant tools. Pedagogy: aspects of public participation and community engagement are taught in a traditional way, using literature, precedents, case studies and guest lectures.
	<i>Community-Oriented</i>	Main objective: to train students how to gather local knowledge and implement this database in planning. Methods include interviews and surveys, involving only few interactions between the students and the community. Course outcome is produced by the students, without the involvement of the community.
	<i>Community-engaged</i>	Main objective: to train students how to plan with communities. Students learn <i>about</i> the community, <i>with</i> the community, and <i>from</i> the community. Local knowledge leads the learning of planning process. The products of the course are not predetermined but depend on shared process with the community.

CBK in traditional-theoretic courses

The syllabi analysis shows that the four studied planning education programs tend to consider residents involvement in planning. They focus on the normative aspect of community-based knowledge, which tries to answer the "what" and "why" more than the "how." Findings show that most of the CBK related courses are theoretical and are being taught using traditional methods. It is possible to distinguish three types of theoretical community-based courses:

1. Community-Based Theory: courses that focus on the theoretical aspects of CBK from several disciplines (e.g. sociology, anthropology).
2. Community-Oriented Theory: courses that focus on a particular community using philosophical and theoretical points of view to case studies related to this community.

¹ In a few cases when syllabi were not available these courses were not examined (17/223).

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3. Theoretical tools and Methods: courses that focus on general tools and methods useful while working with communities.

As presented in Table 1, some of these community-based courses deal with critical approach to public participation, the challenges of multi-cultural planning, and social, ethnic or religious characteristics of the community. Teaching methods in these courses is mainly theoretical, with no significant hands-on involvement in the field or engagement with an actual community.

CBK in experiential courses

Of the 60 courses analyzed in-depth, only 23% were found to be using experiential teaching methods. The analysis shows two primary findings. The first is that what is considered 'social planning' is not necessarily community-based. The difference between the methods used in the courses became evident upon reviewing their academic contents. It comes up also in the interviews with informants. As a senior faculty member in one of the departments said:

In social research, you are the expert wearing a white robe and writing about the community [...] community-based research is a whole different approach, in which you create partnerships with a group of people, working with them form the research goals all the way to the research methodology. It's an action-based research, in which every move potentially signifies a change.

The second finding shows that experiential courses do not necessarily include community-based content or the use of local knowledge. Three types of experiential courses were identified: (1) "about the community," (2) "community-oriented" and (3) "community-engaged."

1. "*About the Community*" are experiential courses focusing mainly on theoretical comprehension of local knowledge and participation. They stress the importance of CBK in planning, but do not offer any actual experience on the ground. The main teaching methodology is through reading, guest presentations, and analysis of case studies. There is no interaction with a real community and no practice-oriented approach to CBK to make this knowledge relevant to the planning process.

2. "*Community-Oriented*" are, for the most part, courses that focus on a particular site as a case study. Their main objective is to train students to gather local data as a foundation for planning, and to learn how to implement this data in the planning process. The methods used in community-oriented courses are mainly interviews and surveys, often based on a one-time interaction with a local population. The analysis of the material gathered is detached from the community, so it is not actually part of a shred planning process. One of the informants, an instructor of few planning studios in the past, criticized this approach:

Many planners think that since they studied planning, they know better than the residents. Even those who do recognize the need to assimilate social, environmental, and cultural knowledge, think they have all the tools and know-how needed to plan. As part of our training we learn from the residents about their neighborhood, and from that conclude how to plan for the 'other; the poor, the immigrant, the weak. But in fact that is not how it works. You took a course about it, that's important, but it is also important to realize that every community contains a different knowledge.

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3. "*Community Engaged*" are courses that introduce students to a site with a particular community for a whole semester. They use the community to teach students about urban and planning matters with two main objectives. The first objective is pedagogical - to train students in three areas: how to perform planning with the community; how to gather, use and assimilate local knowledge in planning; and how to co-create with the community, and possibly with other relevant actors (e.g. the public or third-party representatives). The second objective is social responsibility toward community needs.

In community engaged studios or workshops, students exercise professional practice with the community. Local knowledge leads the learning in a shared process. Course outcome is not predetermined, but depends on the encounter with the community. One of the informants explained that the learning process in a community-engaged course is not based on traditional education, but on co-learning in action:

This is not a 'top down' educational process, but a way of bringing up issues and ideas that demand deliberation. Knowledge comes from dealing with concrete needs, which entails the creation of theory out of practice.

The methods used in community-engaged courses are on-site tours, storytelling, and mutual meetings, either onsite, on campus, or in other places in the city, in which residents interact with students and participate in different stages of the planning process.

Research findings differentiate between three types of CBK and pedagogical approaches in courses that commonly fall under the title 'social planning': (1) objectives, (2) tools, and (3) products. The objectives are set by the instructor and the tools used, as well as the products, represent the instructor's agenda in integrating CBK into planning, either as a background database, as a methodology, or in the action taken. This agenda is related to the instructor's professional approach, as one of our informants, a senior faculty member in one of the departments examined, explains:

There are a lot of methodology courses in our program, in which students experience all kinds of approaches of field work with communities. Each professor takes it to a different level of interaction with the community. Some believe that working with the community forms a better agenda, and some, such as me, believe that interaction with communities is just the beginning of the process.

These different approaches toward the place of local knowledge in professional practice affect the curriculum of each department. But rather than becoming an explicit departmental agenda, they are often related to faculty members and to their personal and professional agendas.

Discussion and Implications for Community-Based training

Our article follows other researchers who question ways of integrating into planning education up-to-date knowledge, aligned with current tendencies in planning theory and practice. We examined the implementation of CBK in four academic planning programs in Israel, and were especially interested in the challenges of CBK and its pedagogical aspects.

Our findings show that planning education programs in Israel focus more on the normative aspect of CBK (its positive or negative impact) than on its empirical aspects. The courses examined stress the "why" (why CBK in planning) and the "what" (what is CBK) and not on

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the "how" (how to include CBK in planning). Consequently, students are presented mainly with theoretical knowledge about the role of the community in planning, but they lack actual tools and methods with which to work with communities. This finding supports a survey of community-engaged academic courses in architecture and urban planning at the Technion (Kallus, 2019). Students' reflections on these courses report an increased social awareness, but inability to integrate their awareness into a comprehensive professional approach. Alongside the recognition of the potentials of community-engagement in professional practice, students expressed a need for a more concrete toolbox, which most of these courses were unable to provide.

Although in our study we did not look at the students' learning process, the three main categories of CBK implementation in professional education we used emphasize social awareness. They show that against courses that teach "about the community", in which the community is used as a laboratory (Reardon, 2006), "community-engaged" courses promote more radical "bottom up" shared learning, for the benefit of communities and NGOs (Berman, 2017). Local knowledge is usually absent from "about the community" type courses, mainly due to their focus on theoretical aspects. Even "community-oriented" type courses correspond to the "unilateral approach" of public participation, as a "top-down" process, based on a single-side procedure and with the "more sharing" approaches, such as Berman's "improved unilateral" and "network participation" methods (2015). But, as opposed to "about the community" type courses, in "community-oriented" and "community engaged" type courses, students have an opportunity to experience the field and practice analytical tools. However, when local knowledge is used only to legitimize planning, or as yet another source of knowledge gathered in the early stages of the planning process, it maintains the planner as the sole source of knowledge, thus the only one capable of leading the planning. The differences between "community-oriented" and "community engaged" courses are based on the way the former uses local knowledge as a source of information, while the latter focuses on how to establish a shared process.

While examining experiential teaching of courses attempted to impart CBK, and the means used to introduce this knowledge, the difference between local knowledge and CBK becomes clear. Local knowledge is a dynamic force in a collaborative process, whether in the educational arena or in "reality." Other researchers noted that the transition from static to dynamic engagement may lead to the empowerment of the community participating (Fenster & Eizenberg, 2016). It could further establish trust between the community and professionals, consequently improving the final product and leading to more effective planning process (Fenster & Eizenberg, 2016; Owens, 2000; Reed, 2008).

A social position distinguishes between training of "technical" professional and professional more attentive to social and ethical values. The curriculum of the various theoretical courses (e.g. planning theories) and practical-experiential courses (e.g. studios) implement normative knowledge. The assimilation of values and ethics in reflective education emphasizes the potential of experiential learning on, in, and with the community (Shriberg, 2002; Cortese, 2003, Lucas, 1980; Farnsworth, 2010). This is hardly available in "about the community" type courses, where there is no interaction with local populations. In community-oriented courses, there is usually one session of interaction with the community and in "community-engaged" courses, there is a prolonged interaction. Therefore, within the experiential courses there may be variations in the ability to assimilate transformative learning, ethical discussions, and the value of social involvement and leadership. However, building the planner's profile through academic training is greatly affected by the academic institution, the department, and the faculty. At the end, how the courses are actually taught, and not only how they are designed beforehand and presented in the syllabi, is probably more important for students' learning.

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This aspect of the actual learning requires a further study.

Operative steps for integrating community-based knowledge in training programs

Diverse teaching methods are found to be essential in order to apply community-based content in planning training programs. In order to educate planners to work effectively with communities, experiential teaching, such as in the studio, should be combined with applicable theory and practice. Our findings suggest a way for planning departments to examine CBK courses in their curriculum in accordance with the different typologies identified in this research ("about the community", "community-oriented", and "community engaged"). It could assist the department in determining which planning tools it wishes to provide for its students and how to better integrate CBK into planning education.

Our findings further suggest that methodological tools be included in the training program, for:

1. Knowledge gathering: off-site demographic statistics and other relevant databases, and on-site, using in-depth interviews and participatory observations. An important question should regard the focuses of the documentation: the process itself, the site, or both?
2. Knowledge creation and formulation: with or without the community? Through one-time interaction or an ongoing process?
3. Products and knowledge transfer: by the teacher, or based on a shared process with the community: What is the purpose of the products? Are they solely for pedagogic purposes? Can they serve the community?

Finally, transitioning to a more enhanced adoption of planning *with* and not only *for* the community depends on a profound change at the heart of professional training and revision of teaching methods. Effective pedagogy will integrate CBK into the core of the curriculum and make it define future professionals who will lead the professional world. This is not a simple mission and requires a significant organization towards a more advanced perception of planning education. However, if we want to educate planners as social entrepreneurs, we must provide them with community-based knowledge and skills.

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Glimpses of a New Profession within Tactical Urbanism

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In recent years, there has been an increasing interest in *urban tactics*. While a precise definition of the banner *urban tactics* is problematic, the generally recognized common features of such practices are the short-term, the small spatial scale, a playful attitude and the attention to locally available resources. It is an ambiguous phenomenon, both in its theorization and in its impact on public policies. The focus of this research is on the category of actors mainly enacting such practices: a growing body of new professional realities, who are stepping out disciplinary boundaries and engaging with complex spatial processes. This new generation of supposed subversive, socially minded and politically-motivated groups is experimenting with self-initiated projects, new forms of financing and alternative organizational structures, mostly in the form of multidisciplinary and precarious collectives. Exploratory and interpretative in nature, this paper suggests some potential lines of investigation to be followed.

Keywords: Spatial agency, urban tactics, do-it-yourself urbanism, expertise.

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Introduction

In 2012, at the 13th edition of the Venice Architecture Biennale, known as one of the most prestigious architecture events in the world, the U.S. Pavilion “Spontaneous Interventions: Design Actions for the Common Good” got a “Special Mention” from the jury. The pavilion presented a collection of pictures of a variegated range of unsolicited, temporary and improvised initiatives. Among the images, one could see wood benches popping out in unconventional spaces, artistic interventions in abandoned areas or groups of people cultivating vegetables on a public flowerbed. “Is that architecture?” someone could argue.

In 2015, a London-based collective of architects Assemble got awarded with the prestigious visual art prize known as “Turner Prize”. The awarded project regarded the physical restructuring of the abandoned buildings of a street in Liverpool through an active collaboration with the residents of the area. “Is that art?” could be argued.

Regardless the controversies about the belonging to a specific discipline, these examples were shown just to suggest the idea that in the last decade a certain way to approach the urban is getting growing popularity, even by means of very powerful and established channels. This “certain way to approach the urban” is referred to in this contribution as tactical urbanism, a recently coined nomenclature used especially in North America to refer to this kind of practices (Silva, 2016; Brenner, 2015).

The first observation supported in this paper is that this popularity is pushing, and it is pushed by the creation of a new profession, of which conceptual borders are still blurred. Indeed, a growing number of practitioners started to deal with unplanned and spontaneous interventions and saw in this way of acting a new potential entrepreneurial path. These new professional realities, considered in this contribution in the European context, are performing at the intersection between the construction of a social project and the search for new working possibilities; and mixing entrepreneurship and practices traditionally associated with forms of dissent, such as unsanctioned appropriation of public space and promotion of instances of self-organization of small communities.

The objective of this paper is to draw the attention towards this new actor participating in urban regeneration processes and to suggest some potential lines of investigation. Exploratory in nature, this paper is an expression of a work in progress and it represents a first attempt to start a reflection on the assembling processes of an emerging expert authority within the jurisdiction of space management. Data for this study were collected using 15 face-to-face semi-structured interviews with urban practitioners actively trying to professionalize urban tactics. The interview had been conducted personally in the European context between October 2016 and November 2017.

The essay has been organized in the following way: The first section offers an overview of the methodology through which the data had been collected. Particularly, it aims at clarifying the sampling process to choose the interviewees. Then, as a necessary premise to the investigated phenomenon, the second section introduces the label “tactical urbanism”, questioning its meaning and relevance as a definition. The paper will then go on with the section “activists by profession”, framing the profile of the urban practitioners under analysis. This section attempts to sketch this profile both theoretically, with a brief literature review on the phenomenon, and empirically, through excerpts from the interviews with the practitioners themselves. The fourth section is concerned with the introduction of two possible lines of investigation to be followed. More than giving answers, this paper aims at drawing attention

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towards this hybrid category of actors; and at stimulating a reflection on its agency in the context of urban regeneration.

A Methodological Premise

As it will be clear in the next section, the label *urban tactics* is everything, but precise. In this context, it becomes quite arbitrary to identify the groups that should constitute the emergent category of urban practitioners professionalizing urban tactics mentioned in the introduction. Therefore, a brief focus on the sampling process is needed. Indeed, while in the next sections the porosity of the category will be theoretically addressed and will be presented as a fruitful cause of speculative reflection; here it is presented primarily as a practical issue.

The very initial criteria to select the informants had been very vague and porous. The starting point was merely the search for professionals who approach urban development with an 'original, less exclusive, more open-minded attitude, more in touch with the reality of society' (Collectif Etc, 2015, p. 28).

Furthermore, most of the times the groups themselves defy categorization. In the introduction of a publication promoted by one collective of architects (Collectif Etc, 2015); I interviewed, Thierry Paquot, a French philosopher dealing with urbanism, found it interesting to reflect on the name of the collective: "etc". The choice of such a name reveals their unwillingness to be put on a list to be categorized and defined, and it refers directly to what stays outside the list. Another collective I interviewed is called "ATIsuffix", which is a *suffix* more than a name, a declination to be attached to different verbs. The created neologisms become then the names of the projects.

Even if they are everything but helpful in narrowing the field, these choices of names unveil certain attention given to classification and definitions. Indeed, these very self-reflexive actors, are strongly engaging themselves in reasoning on their own identity. This has made particularly clear that 'groups are not silent things (...) group delineation is not only one of the occupations of social scientists, but also the very constant task of the actor themselves' (Latour, 2005, pp. 32–33). It then appeared consistent to use a snowball sampling technique, meaning to follow the suggestions and the contacts of the groups interviewed, whose network of connections and collaboration defined a kind of community of practice (Wenger, 2008). The starting points were the groups already well-known because they had been quoted in other scientific literature or because of the popularity given by their projects. This has allowed access to more embryonal groups, which are still in an ongoing process of professionalization.

The result of the sampling was 15 collectives. Most of the interviews had been collected in Italy, both in the North (Turin, Venice, Piacenza, Bologna), and in the South (Rome, Bari) of the country. Occasionally; the suggestions of the interviewees required to extend the empirical work outside the national borders: specifically, in Marseille, Brussels, and Lisbon. All the groups considered in this contribution had become active in the last decade. The average age of the subjects was between 25 and 35 years, and the great majority has a background in architecture. However, snowball sampling is a nonprobability technique, which means that the resulting samples should not be considered as representatives of the population being studied. Thus, this information is just exposed in order to give an insight into the subjects providing the data for this paper.

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Framing the Banner “Tactical Urbanism”

Chair bombing, guerrilla gardening, temporary appropriation of parking plots, and pop-up installations on public space, these are some of the practices that in the opinion of some authors (Inti *et al.*, 2015; Oswalt *et al.*, 2013) may be contributing to a new paradigm of urbanism. The purpose of this section is to frame this trend, which, throughout this paper, will be referred to as “tactical urbanism”. Indeed, as reported and critically addressed by Iveson (2013), there are different ways to refer to the same kind of practices.

Language is not neutral, and the term depends on the aspect chosen to be the common denominator. By instance, “do-it-yourself” or “grassroots” urbanism usually reminds to the anti-professional nature of the urban actors enacting the interventions. However, given that the professionalization of these practices as an ongoing process is an assumption of this paper, considering the non-professional nature of the actors as the characterizing feature would be a paradox. In the same logic, labels such as “insurgent” or “guerrilla” urbanism are insisting on the antagonistic character of the practices, but this is a feature which is too hard to define and to assess to constitute a distinctive characteristic.

One prominent voice in the debate on such loosely defined urban practices is Douglas (for a recent review of his work see Douglas, 2018); who, in the attempt of creating a different category from vandalism, individual expression or radical urban activism, had coined the term “do-it-yourself urban design” (Douglas, 2014). This reminds broadly to ‘small-scale and creative, unauthorized yet intentionally functional and civic-minded “contributions” or “improvements” to urban spaces’ (Douglas, 2014, p. 6). In this case, the peculiar feature, more than the nature of the actors, would be the lack of authorization of the initiatives. Once again, this criterion seems too exclusive; the urban practitioners considered here often, besides not always, manage to get the authorization for the interventions.

The label “tactical urbanism” on the other side appears as a very open banner. This nomenclature was born recently, in 2010 (Silva, 2016), in the context of North American through public salons², open seminars, and workshops³ and the publications of a series of handbooks⁴ for practitioners developed by two design agencies, CoDesign Studio⁵, and Street Plans Collective⁶. But what does *tactical urbanism* mean? Besides its increasing popularity, the current scientific literature on the topic denounces a significant inaccuracy in its meaning, referring to the abovementioned handbook just as an “unproblematic collectivisation of rather disparate activities” (Mould, 2014, p.531) without any explanatory potential.

Indeed, the adjective *tactical* does not imply any particular nature of the tacticians, neither any specific legal conformations of the interventions. It is maybe exactly this vagueness and adaptability that are pushing the spreading of this term. An outstanding example of the popularity of the term is gaining is the exhibition “Uneven Growth. Tactical Urbanism for Expanding Megacities” promoted in 2015 by the Museum of Modern Art (MoMA) of New York. The curators of the exhibition asked six multidisciplinary teams to develop strategies for six

² The Salons are public meetings organized by Street Plans Collective. The first one was held in Queens, New York and in 2012 other three similar events had been organized: in Philadelphia (US), in Memphis (US) and in Santiago (Chile).

³ A complete list of the huge number of workshops and seminars on Tactical Urbanism held by the staff of the studio “Street Plans Collaborative” is available here: <https://www.street-plans.com/trainings-workshops/completed-lectures-workshops/> [last access 31/08/2018]

⁴ The free download of the “Tactical Urbanism” guides, included an Italian and a Spanish version, is available at <http://tacticalurbanismguide.com/guides/> [last access 31/08/2018]

⁵ More info at <https://codesignstudio.com.au/>

⁶ More info at <https://www.street-plans.com/>

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megacities taking inspiration from the principles of tactical urbanisms, which on the website of the event is synthetically defined as “temporary, bottom-up interventions that aim to make cities more liveable and participatory”⁷.

The use of this term in such an important institution convinced a prominent scholar in urban studies, Neil Brenner, to take this banner into consideration. In the attempt of shedding light on the terms, Brenner (2015) identified some distinctive features of the initiatives under the umbrella-term of tactical urbanism, such as: short time horizon, small spatial scale, mobilization of locally available resources and a certain degree of open-endedness. However, in the same text, he denounced the fact that even among the practitioners there is divergence on the meaning of the notion. As mentioned before, urban tactics is a concept ill-defined and problematic (Mould, 2014). Its inconsistency risks to make the definition irrelevant.

In order to grasp the peculiar features, if any, implied by this term, it is suggested here to recall the roots of the epithet “tactical”. The use of the term “tactics” in this field has a clear reference in the work of Michel De Certeau (1984). In his understanding, tactics could be defined as *micro-dispositifs* of resistance in everyday life to hegemonic discourses. The basic idea is that tactics emerge from the interstices when there is an opportunity and they represent a specific response to the contingent circumstances. Their peculiarity, differently from the antithetic strategies, is to be based *on time and not on space*. In the words of De Certeau: ‘strategies pin their hopes on the resistance that the establishment of a place offers to the erosion of time; tactics on a clever utilization of time, of the opportunities it presents and also of the play that it introduces into the foundations of power’ (Certeau, 1984, pp. 38–39). This would mean that as soon as this trend becomes a paradigm, it loses its defining feature: the disconnected, improvised and random nature. On the other side, as Iveson (2013) stresses, without a bigger picture, there is no change. However, the political potential of these practices, which urgently needs more exploration, is not the focus of this contribution. This section just aimed at framing a blurred definition of tactical urbanism as a necessary introduction of the profile of urban practitioners who are going to be introduced in the next section.

In conclusion, urban tactics are framed throughout this paper as interventions that are popping out without an overall vision, rather promoting adaptation and potential incrementality in a pragmatic and opportunistic way.

At the Threshold of Categories

Dealing with different fields, from the community engagement to self-built urban furniture, these urban practitioners are challenging disciplinary borders and rules. Is it legitimate to call you architect if you never designed a building? Could you be a planner if you never signed a plan? If new approaches are arising in the field of urban regeneration, we may need a new vocabulary to deal with them. The aim of this section is to recall some of the attempts in the scientific literature to codify this kind of emerging expertise. *How to name this young generation who is trying to build up a new professional identity, that intersects design skills, social and political commitment, and civic engagement?*

As mentioned in the methodological section, it is a field in which there is no sharp distinction between theorists and practitioners, often practice and theory are developing together. Indeed, most of the available literature on the phenomenon of this emerging profession comes from the practitioners themselves. Among the practitioners who are also active in the production of scientific literature, in order to start a map of the main references, it is worth to cite Doina

⁷ http://uneven-growth.moma.org/?_ga=1.63003501.313782902.1488103900 [last access 20/04/2018]

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Petrescu. She is a good example of this double identity of practitioner and researcher. She is the co-founder, together with the husband Constantin Petcu, of the practice *atelier architecture autogérée (aaa)* and professor at the Architectural School of Sheffield, UK. Their practice, very successful nowadays in terms of visibility considering how much is exhibited and published, would belong to the first generation of this kind of expertise in Europe and it is a reference to many new practitioners. Their centrality is witnessed also by the fact of having been the coordinator of an EU funded project “European Platform for Alternative Practice and Research on the City (PEPRAV)” between September 2006 and 2007. The project resulted in two publications⁸ which collected interviews and reflections on the transformation of (not only) architectural practice.

The label *Alternative Practice and Research on the City* is intentionally very generic to maintain a certain degree of openness. In the introduction of the first publication, it is specified that the selection criteria have been affinity and friendship, a mechanism that should not be surprising since the theme is properly about informality, collaboration, and DIY spirit. In the case of *aaa*, *urban tactics* are the label the practitioners themselves are using to refer to the interventions of their “transgressive practice” (Petrescu & Petcou, 2013). The focus is put on the concept of *transgression*, the practice has ‘broken the rules of the “commissioned project”’ (Petrescu & Petcou, 2013, p. 61); starting spontaneously the projects and ‘transgressed the professional regulations’ (*ibidem*); opening to the users the access to the design process. This specific idea of *transgressing* or *hacking* the profession came out also in some of the interviews. As anticipated before, most of the subjects presented a background in architecture, but they are all trying to reshape, or hack, the meaning of architecture. “It would be a relief to not feel delegitimized because you are not building a wall” one interviewee said, “rather you are doing a performance, but you can say ‘that’s architecture for me, I am shaping the space”’ (member of ATIsuffix, 25/10/2016, Rome). This means questioning architecture, as another group clearly and intentionally stated: “most of the times we say we are architects (...) but it is a strategy because by saying that we are showing to the architects: ‘look, we can also work in a different way”’ (member of collectifetc, 22/10/2016, Marseille).

Related to the idea of transgression, *conflict* and *responsibility* are other two recurring and key concepts to understand the philosophy of such a movement of professionals. The focus on conflict is central in the work of another scholar and practitioner. Markus Miessen, who is one of the detractors of the mantra of participation (see Miessen, 2011) in the field of architecture, and who developed, in conversation with Chantal Mouffe, the idea of an “agonistic mode of participation” (Miessen, 2011). He worked a lot on the possible and transforming role of the architect and edited a series of books⁹ with Nikolaus Hirsch, all regarding critical spatial practices and engaging with their political dimension. The label proposed by Miessen is “crossbench practitioner” (2011; 2016), using the metaphor of the crossbench politician in the British House of Lords as a reference. The metaphor is based on the idea of *autonomy*: as the crossbencher does not belong to a specific party and could swing its alliances. Similarly, the crossbench practitioner is defined by its practice and not through discipline or profession.

Once again, the interviews confirmed this skepticism about belonging to a specific discipline. Or better, it is lived as a non-interesting matter, as in the case of one interviewee “we are not interested in being put into boxes (...) you can call it whatever, architecture, interior design,

⁸ The project has been founded by the CULTURE 2000 program of the European Union and it was run as a partnership between atelier d’architecture autogérée, the University of Sheffield, Recyclart and MetroZones. The two publications are titled “Urban/act: A handbook for alternative practice” and “Trans-Local-Act: Cultural Practices Within and Across”.

⁹ Markus Miessen and Nikolaus Hirsch edited 7 editions of the Critical Spatial Practice Series between 2012 and 2015.

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carpentry, we don't care how you call it" (member of orizzontale, 26/10/2016, Rome). The basic idea is that you can dive among different disciplines and pick just what you need, as clearly stated in another interview: "we don't feel the need to belong to a discipline, we use the practical and conceptual tools that we need, taking them from different disciplines" (member of ATIsuffix, 25/10/2016, Rome). However, other interviewees expressed the need to narrow the field of action. On one side, with the objective of being differentiated from other practitioners: "there is a macro-area of practitioners refereed as *cultural workers*, but I don't identify with them, because we are actually specialized, some of us are taking also postgraduate courses, we are dealing with space" she said, "and since you are specialized in that, could you be still called just cultural worker? I don't think so" (member of labzip+, 23/10/2017). On the other side, developing an identity and having the words to express it, means also to develop more legitimacy, to be recognizable.

Another effort in the codification of this growing body of professional reality had been made by Nishat Awan, Tatjana Schneider, and Jeremy Till, who developed the online database spatial agency¹⁰, which evolved in a publication¹¹ as well. Tatjana Schneider and Jeremy Till (2009) affirm to conceive as a spatial agent 'who effects change through the empowerment of others' (Till, 2009, p. 99). The central point is to uncover the potential for architecture and urban planning 'to be engaged with and thus critical of the existing' (Doucet & Cupers, 2009, p. 1). The authors explicitly decided to avoid the use of the word architecture, preferring a more complex and general term: spatial. The term "agency" reminds directly to the projective attitude, indeed the creators of the database spatial agency 'understand criticality primarily as a matter of practice, yet inevitably guided by theory' (Doucet & Cupers, 2009, p. 4). In this logic, the database could be briefly defined as a collection of experiences of *criticality in practice*.

The idea of 'agency' is fascinating and one of the collectives I interviewed even used it as a reference to choose its own name: kiez.agency. Many of the groups admitted having spent quite a lot of time deciding the name. This is not surprising since, without clear-cut definitions, you need a meaningful name to identify yourself. In the case above, for example, while "agency" reminds to the work of Jeremy Till, the word "kiez" is a German word, hard to be translated. It reminds to a kind of territorial community even if not officially recognized. It primarily refers to the community of a neighbourhood and less to its physical borders or configuration. This choice could be translated in the statement of the will to work with people in places, and not on empty spaces. Another group is named Rivularia, which is the name of a seaweed. It is parasitic seaweed, as these urban practices have a parasitic attitude towards the city. The seaweed finds its home in the interstices and allows the main organism to live. The basic idea of this metaphor recalls pretty much the reasonings that were done in the previous section about the roots of the word tactics in the work of De Certeau.

The struggle both in the academic literature both in the everyday activities of the groups to find out a definition mirrors the variety and the widespread of this kind of experiences. The enthusiasm and vitality usually associated with these experiences result quite appealing to a growing percentage of a new generation of architects and urban planners. The motivations behind this kind of choice are certainly variegated. There are some structural drivers such as high rates of unemployment in the traditional labor market. At the same time, there is a common disillusionment regarding the institutional participatory approach, which appears depoliticized and deprived by its originally emancipatory ambitions (Blundell-Jones, 2009; Fainstein, 2015; Miessen, 2011). Furthermore, the engagement with actual situations and very

¹⁰ The database is available at <http://www.spatialagency.net/>

¹¹ Awan, N., Schneider, T., & Till, J. (2013). *Spatial agency: other ways of doing architecture*. London: Routledge.

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local issues, somehow giving up to project future scenarios, reflects the fragmented and existentially precarious elements of the contemporary times.

These hybrid urban professionals are struggling to find a place, standing on the blurring borders between amateurism and professionalism, and exploiting their double identity of experts and citizens. If asked to define their own work, none of the interviewees could. A new vocabulary would be needed to describe such a way of working, even if the lack of a definition is not perceived as a problem. On the contrary, finding out a definition is perceived even as threatening, somehow closing new possibilities, while these groups aim to avoid routine and to stay open to new forms of experimentations.

Potential Causes for Reflection

Although the phenomenon could be considered marginal in relation to its size and the scale of its impacts (as suggested by Brenner, 2015, with the *neutrality scenario*), it is suggested here that these new urban actors could be considered emblematic of some contemporary trends in urban transformation and urban studies and they are therefore worthy of being further scrutinized. Two lines of investigation are proposed as a starting point. The first one regards the controversial political potential of this category of actors, and it aims at contributing to the debate on the risk of neoliberal co-optation of practices of resistance. The second issue underlined regards the spread of these groups in different local contexts, and it potentially touches the debate on the transfer of urban ideas, practices, and policies.

The first concern could be summarized in the following questions: *What is the political potential of these urban practitioners? Would it be possible to frame them as a subject with a specific political agency? Or, on the contrary, are these practitioners depriving the practices of urban tactics of all their emancipatory and provocative stances engaging them in professional practice?* These are very broad questions and they basically remind to the role of what Margit Mayer (2013) called *first world activism*. It is not in the ambition of this paper to give a definitive answer to those very complex and broad questions. Rather this contribution aims at suggesting an original interpretative key to look at these issues. One way to address the professionalization processes in relation to the political potential of these subjects could be to associate it to the precarious conditions of the individuals involved, with the consequent contradictions of the profit-driven logic it implies and the framing of self-precarization (Ferreri & Dawson, 2017) as an oppressive governmental instrument.

Without denying the importance of such a perspective, it is proposed here to focus on another side of the issue: the power that could be gained by establishing an expert authority. Indeed, constructing an expert authority *is* a political process, if it is assumed that expertise is not 'a free-floating cluster of knowledge, capacities, and skills' (Newman & Clarke, 2017, p. 2), but the unstable and contingent result of a contentious process. Taking this perspective, the professionalization process is not undermining the political potential of the practices, but rather it could be framed as a political strategy of empowerment. There are some insights into the interviews which could suggest the intentional use of this strategy in order to get more legitimacy in a governance network, but further research in this direction should be developed.

The other issue raised above regards the diffusion of these practices. *How does it happen that in a reasonably short time frame the same practices are experimented in so many incommensurate cities? What can be learned by the diffusion mechanisms of this kind of expertise?*

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In other words, it is proposed here to study how a specific category of actors, this new generation of professionals, reproduces its own community and identity. In order to explore this dimension, the recent literature on urban policy mobilities (for a satisfactory review see McCann & Ward, 2011) could be very useful. Much of this literature agrees on the non-linearity of the contemporary urban policy and practices transfer. It is actually not a transfer, rather a *translation* (McFarlane, 2011), as policies moving around get ‘assembled, disassembled, and reassembled along the way’ (McCann & Ward, 2011, p. 43). The first implication of this finding is that it contrasts the diffusionist model, acknowledging the relational nature of knowledge. This prevents simplifying the intentionality and the direction of the transfer and allows to draw more complex geographies of power. This means to unveil what Massey (in McCann & Ward, 2011) names ‘the local production of the global’ (2011, pp. 8–9).

Assuming a true relational perspective, a fruitful idea could be to frame the people belonging, or trying to belong, to this emergent expertise directly among the infrastructures that channel mobilities. Ordinary people, in this case specifically, the members of the architectural collectives, can be considered transfer agents assuming a “middling transnationalism” (Smith, 2005) perspective, which poses the focus exactly on the practices, struggles and mobile lifestyles of middle-class social actors, such as the skilled workers, object of this study. Indeed, some of the groups were born because of the influence of some peers. One interviewee for example remembered: “I got to know this culture for the public space in Spain, I was there because of an internship in another field, but there they are so organized about¹² and then I came back and with some friends we started to do things here” (member of praxis, 25/10/2017, Piacenza).

In other cases, some older collectives acted as incubators. For example, the members of the collective ATIsuffix in Rome were students of Francesco Careri, one of the founders of the collective Stalker/ON. They got to know each other there and then they decided to emancipate themselves. Another example of this trajectory is kiez.agency, based in Bologna, which had been incubated by the association Architetti di Strada, where the three members have experienced for the first time working autonomously together. Plinto, another group, based in Turin and born as a student organization, is another case: they inherited the brand from a former group of students who graduated and left the university. These are all cases in which other people acted as infrastructures and nourished the birth of new groups.

A study on the trajectories of these groups could help in visualizing the complexity and the diversity of reasons behind such processes of professionalization. However, to investigate how and why the groups engaged with urban tactics appears very intricate. Indeed, it could be tricky to ask the informants, in this case, the members of the collectives, from where their ideas came from. Most of the times, ideas cannot be followed; discourses are assimilated rapidly and often unconsciously and then reinvented locally. It could be that local actors “invent” policy ideas which are very widely known, or which might emerge in different places at the same time’ (Robinson, 2015, p. 832), but they did not arrive, they are somehow born locally. Ideas do not travel, a metaphor which reminds to a bounded and defined thing moving around, rather they pop up in different places, adapted and translated in the specific circumstances. *How to study then how an idea was born?*

¹² He later referred to the network Arquitecturas Colectivas (more info at <https://arquitecturascolectivas.net/>)

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Conclusion

This paper had two objectives. First, it aimed at drawing attention to an ambivalent profile 'in which dissent and entrepreneurship have become almost indistinguishable' (Cupers, 2014, p. 7). In line with the topic 'Planning and Entrepreneurship', this figure regards both planning, being emblematic of a growing trend in urbanism; and entrepreneurship, being an example of a start-up in the field.

The very first thesis supported by the paper is that tactical urbanism, besides being often presented as a form of civic activism, is developing and spreading around together with a new profession, which is still hard to clearly define. However, while in the academic literature there is a lack of proper terminology to highlight the phenomenon (Mould, 2014; Iveson, 2013), on the field these professional realities are already active.

Secondly, the paper suggests some lines of investigation to better frame this phenomenon. The focus is drawn on the controversial political power of these actors and on their potential role as transfer agents. These two issues are apparently separated, but strictly connected. Indeed, both issues address this new category with the same intention: refusing to dismiss these experiences just as an example of neoliberal endorsement of spatial micro-practices.

On one side, assuming a constructionist conception of expertise is legitimate and allows to frame the construction of an expert authority as a political process, able to be an expression of emancipation. Following this logic, they are not passive receivers of broader trends, but rather the professionalization efforts unveil spaces for their agency. Likewise, highlighting the diverse starting points and trajectories of these practices again reminds to the agency involved in the mobility process, denying the reading of this trend or any other social order as an outcome 'of impervious, omnipotent, out there structures or systems, but right here coordinated (although not always rational) by agreements and arrangements based in contingently formed skills and interpretations' (Jacobs & Merriman, 2011, p. 212). Overlooking this would 'overestimate the coherence of 'the powerful' and the seamlessness with which 'order' is produced' (Sharp, 2000, p. 280).

Hopefully, it will stimulate a reflection on these issues, opening the path to more studies in this direction.

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Understanding the Added Value of Rooting Geo-technologies in Planning Practice: The “Intramural” Case Study in Jerez de la Frontera, Spain

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While planning practice largely relies on conventional planning methodologies, academia is ahead on the research about geotechnical tools such as Planning Support Systems (PSS) and how they could support contemporary and complex planning processes. The aim of this paper is to show the outcomes of the application of geo-tools (i.e. Geographical information systems) in an empirical case carried out by practitioners, academics, and the Municipality of Jerez. It draws on empirical data from a planning project focused on the dilapidated and oldest area in the city centre. This area is collapsing due to lack of maintenance and lack of inhabitants. The project created an urban indicator framework, to determine the agenda and priorities for urban development projects implemented in the area. It is a quantitative approach and distil what could be done to ameliorate the situation. This paper promotes aims to reflect how PSS can be appropriated in a specific planning culture. The goal is to find which are the crucial urban indicators and which are the added values found during the implementation of PSS during the process. It concludes by emphasizing the valuable contributions of empirical case studies to better understanding the added value of PSS in planning practice. It reflects on the demand to promote tailored PSS applications in order to adapt to local planning methods and theories.

Keywords: Planning practice, geo-technologies, planning support systems, urban vitality, urban indicators, geographic information systems.

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Towards a More Contextualized Planning Approach

Contemporary planning approaches have to address a wide range of complex issues in cities. Methodologically, in order to address that complexity, a city planned from a more bottom-up approach is the one that pretends to read not just the global agendas but also the local demands. Indeed, several planning practices have found the collaborative planning approach a way to methodologically approach the challenge of complexity in a democratic way. They aim at providing plans that take into account the local demands taking place in our contemporary cities (Goodspeed, 2016; Healey, 2003). The collaborative approach promotes a dialogue between diverse actors with different interests in order to achieve an inclusive city where everyone could have quality of life. However, collaborative planning is not chosen by many practitioners from contexts like south Spain.

This paper reflects on the applicability of Planning Support Systems (PSS) in a collaborative planning approach, by examining how GIS and an urban indicator framework perform during the elaboration of an urban project plan in a specific planning culture situated in the south of Spain. PSS such as GIS, geo visualizations, and urban simulations are being implemented alongside conventional planning approaches as a supporting tool rather than as a tool that dominates the planning exercise (imposing data-driven solutions with no understanding of the qualitative side of urban problems). This promotes more the approach of a collaborative purpose, understood as a process where diverse stakeholders are considered during the decision making process, in the urban plan elaboration process.

PSS' technologies provide a quantitative and rigorous reading about the physical aspects and living conditions of the area by processing a considerable volume of data. However, by combining technology and conventional planning methods, the result is a process in which the main concerns are not the outcomes but the focus is set on improving the process towards deriving these outcomes. The focus is then towards promoting a collaborative approach bringing together diverse stakeholders and promoting potentially more inclusive outcomes from planning practice.

PSS can be considered as a theoretical tool without any practical application, the ambiguities in its definition being discussed by authors like Harris, Batty, Klosterman, Vonk, Geertman, Toppen & Stillwell, among others, who do not succeed in discouraging us from our alignment with Portugali's claims in that PSS emerged from the need to support a collaborative planning process, considering the aforementioned tools as a support to establish a more collaborative decision-making process when compared to classical planning.

Planning Support Systems, are defined by Portugali (2011) as the combination of Geographic Information Systems (GIS), virtual reality and urban simulation models. Becoming prominent in the 1980s, PSS were seen as a powerful solution for enhanced implementation of technology into planning exercises (see Harris, 1989) However, these tools are not without their critics: several academic studies have examined the usability and usefulness of PSS in collaborative processes to determine their specific contribution to planning practice (Pelzer, 2015; Te Brömmelstroet, 2016; Vonk *et al.*, 2005). Those authors identify a number of reasons as the cause of their professional rejection: the exclusively technological orientation in understanding the urban problem, their rigidity, the absence of a user-friendly interface and their universal character. Other authors, among which Geertman and Stilweel (2004), who state that "the state-of-the-art in terms of the adoption of PSS and their real contribution in practice has remained uncertain" (p.292), and Vonk (2006), among other, conclude that, despite the fact that PSS have not been applied in practice, professionals still require and

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request support in their everyday challenges due to the growing complexity of the planning exercise.

The tool that allegedly operationalizes the application of the theory of convergence is sorely lacking in the professional life. Despite technological advances, we continue to struggle for ways of implementing them in practice. And this is a research question which is tested in the empirical case explained in this paper.

The fact that the tools are shaped differently in every planning culture and ultimately produce different outcomes demands a review of how they perform in multiple planning cultures in order to observe patterns of usability, usefulness and performance of PSS supporting and facilitating diverse planning methods worldwide. Such observations of how diverse planning cultures appropriate PSS are crucial for enhancing the understanding of the role of technology in supporting planning practice.

This article examines PSS implementation in a planning exercise carried out with the Municipality of Jerez de la Frontera in southern Spain, to develop a planning process for Intramural, the oldest area within the old Almohad city walls. As the oldest and heavily rundown area of the city, it has been the focus of numerous planning interventions during the last 30 years. Our exercise is an attempt to test approaches based on rooting technological tools in a specific planning culture in order to understand whether they add any value to current processes. The "Intramural Process" was developed in two main phases: 1) *Urban Diagnostic Document*, developing an urban indicator framework through GIS and database analysis, providing a novel reading of the current state of the area; and 2) *Public Participation Process*, a public exhibition showing the outcomes of the diagnostic analysis as well as several public activities aimed at formulating a collaborative conclusion on the state of the area.

The article is structured as follows: Section 2 outlines the outcomes from the two phases developed under a real case on a planning process situated in Jerez de la Frontera. The first phase encompassed an analysis of the area using GIS and databases, while the second phase analysed the application of visualization tools and their role in facilitating enhanced understanding between key actors invited on focal groups during the open exhibition. Then, the paper reflects on the question of to what extent can PSS improve the existing planning approach in the specific case of southern Spain.

The role of Geo-technologies in the Analysis Stage of Planning Practice

In the analysis stage, the practitioners (planning and urban design companies elaborating urban plans) sought to develop a planning document called "Urban Diagnosis", capturing the current state of the area and mainly related to its physical conditions and the most urgent interventions. This process utilized: 1) a *multilayer* method, combining urban indicators to understand the interconnectivity between urban issues (such as lack of inhabitants, collapsing buildings, lack of maintenance of public space, so on); and 2) a *multiscale* method, analysing the main five scales of the Intramural area (one district, five census areas, 16 sectors, 100 blocks, 953 plots). The block dimension was the most-analysed scale because at this spatial unit the urban indicators analysis produced the most relevant outcomes and, historically, the block has always been the main urban unit related to the separation between public and private space.

This phase used mainly GIS technologies linked to a database from the Municipality and other institutional sources. All the gathered data were processed to generate an urban indicator

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framework composed by a set of indicators developed by the practitioners in order to measure quantitatively the status of the area.

Urban vitality as indicator to understand liveability in southern Spanish cities

Instead of the conventional planning approach, based on making a simple differentiation between residential and non-residential land use, our approach studied the performance of urban vitality in the area. Urban vitality can be defined along Montgomery's (1995: p. 97) approach:

“Vitality is what distinguishes successful urban areas from the others. It refers to the numbers of people in and around the street (pedestrian flows) across different times of the day and night, the uptake of facilities, the number of cultural events and celebrations over the year, the presence of an active street life, and generally the extent to which a place feels alive or lively. Indeed, successful places appear to have their own pulse or rhythm, a life force or *elan vital*. But this can never be taken for granted, as there are now many examples of previously lively places which have become dull and inert.”

Following this definition, we analyzed urban vitality in Intramural areas through the combination of three data types. First, land-use distribution was collected from the land register, which defines land-use by plots grouped as either residential or non-residential. The residential built-up area was 61.10% of the total Intramural area. Second, the census data from the National Statistics Institute of Spain (INE) showed that 42.46% of the built-up surface had no inhabitants, thereby demonstrating the issue regarding the lack of urban vitality. Third, water consumption data was collected from the public water company, indicating water consumption volumes by blocks per year. It defined the level of urban vitality of the residential built-up area without water consumption at 19.53%, meaning there is a significant percentage of built up area not consuming water showing the lack of urban vitality indicating that there are no people using these areas. With this information (water consumption in non-residential functions) it was also possible to calculate the vitality of non-residential land-use. Indeed, 24.27% of the built-up surface characterized as non-residential was inactive (with no water consumption), again pointing to a lack of general vitality in the area.

This input was decisive for the entire planning process. Usually conventional planning just gets to read the physical and static side of cities (i.e., maps of built up area distribution, population distribution, heritage protection, so on). However, and by the support of GIS tools, this experiment showed that the dynamics and more vital area of cities can also be seen from a quantitative point of view promoting an additional metric for measuring vitality of use in the area.

This provided for a shift in focus in the elaboration of indicators, highlighting that the issue at hand is not the bad physical state of the buildings, but rather that due to strong tendencies of depopulation some sections of the area are not inhabited, further worsening building maintenance. This shift means that the technological tool added value in terms of content but, more importantly, also shaped the internal dynamics between practitioners. It showed how intuitions could potentially be proved or refuted by advanced quantitative analysis and that with conventional tools could not be addressed.

To understand the value of the urban vitality indicator as one of the main outcomes of the analysis, a deeper understanding of the relationship between vitality and built-up space was needed. To tackle this challenge the team developed the “level of unoccupied” indicator (Table 1), by combining the three layers mentioned above (land-use distribution, census data, and

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water consumption). This indicator had four levels for residential land-use (unoccupied, underused, badly occupied, well-occupied) and two levels for non-residential use (active and inactive).

Table 1. Level of vacant space in the Intramural Area.

LAND-USE	RESIDENTIAL				NON-RESIDENTIAL	
	Unoccupied	Underused	Badly Occupied	Well occupied	Active	Inactive
Level						
Parameters (person by built surface) Water consumption (yes or not)	0 person by plot	< 65 m ²	35–65 m ²	>= 35 m ²	yes	no
RESULTS by built surface	19.53%	60.27%	13.51%	6.68%	75.73%	24.27%

By aggregating and averaging the figures for all underperforming areas (unoccupied, underused and badly occupied from residential and inactive from non-residential) they concluded that 79.88% of the total built-up surface of Intramural could benefit from interventions to improve use vitality. Therefore, the usability of GIS as integral part of a PSS was crucial in order to be able to understand the overlapping of the diverse indicators formulating the values of urban vitality.

The relational framework of vitality through urban indicators. The case of Intramurals.

In this section and through the understanding of interrelated indicators to urban vitality we aim to explore the added value of technology within a complex reading of an urban issue. To be able to intervene in a successful way in an urban area, it is important to understand the past intervention analysing its successes and failures as a way to avoid repeating mistakes. In the case of Intramurals, after thirty years of public intervention, the indicators still show a lack of urban vitality.

The demographic comparative study of Jerez's and Intramural's population for the period 1960–2013 highlighted the population decline in Intramural, implying weak impacts from the building renovation work carried out by the public administration in the area. During the same period, Jerez de la Frontera as a whole saw continuous population growth.

Around 1960, the Intramural area comprised 11% of the total population of Jerez, declining to 2% in 2013. This outcome can be explained by the socio-economic drivers behind the demographic trend, roughly divided into two periods. The decades between 1960 and 1980 are marked by a sharp population drop, decreasing from 13,813 to 6,261 inhabitants. The three main potential reasons behind the sharp decrease in population numbers are: 1) the new housing city growth model, which developed several hectares of new urban development at the city's periphery; 2) the industrialization of the wine production, concentrated in the Intramural area, and its subsequent relocation to the city's periphery, promoting employees to move out of the historical centre to the new suburban areas; 3) the car-centred city growth model, which incentivized relocation to suburban areas (as part of the suburban trend in most of the cities during the 60s).

From 1980 to 2014, Intramural's population has remained largely constant at around 5,000 inhabitants, roughly one-third of the population size in 1960. Since 1980, the Municipality has sought to counter the critical state of the Intramural area with a package of public construction interventions. According to the urban diagnosis document, half of the built-up area (50.43%)

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has been renovated to date. While it clearly had the effect of halting the exodus out of the area (i.e., maintaining stable population numbers), it did not succeed in attracting new residents to Intramural.

In order to quantify the lack of success of the last thirty years of urban interventions so as to bring back the urban vitality that the area demands, an analysis was developed which combined two urban indicators: “level of unoccupied buildings” and “level of building intervention”. This revealed that 52.93% of the unoccupied buildings had benefited from interventions during the past 30 years. Despite the large share of renovated built-up area, occupancy figures for the area still fall short of its maximum capacity (Figure 1). The combined analysis of different data streams demonstrates that the future performance of Intramural is not only connected to physical or spatial interventions but also to specific measures that will attract people to live in it.

Moreover, more than one-fourth (26.44%) of the built-up area is in bad physical state. This percentage is classified as high and alarming, especially when one considers that the share of buildings in bad physical state should be less than 5%. However, it is important to understand that the physical space also has a social dimension, which can be analysed by combining the urban indicators “condition of the buildings” and “number of people living by plots”. This analysis shows that 17.90% of the population lives in a building of bad physical condition, which is correlated with the high level of vulnerable population in Intramural. Therefore, if people do not live within the built-up area there is no one to maintain it, even more as regards the historical centre where the built heritage is more expensive and requires more time to be rehabilitated.

Since this area is the city centre and the origin of Jerez de la Frontera, it has a very high share of structures (69.50% of all plots) under protection as historical heritage by the national, regional and local government. By combining this indicator with “level of unoccupied” and “physical condition of buildings”, we found that 70.92% of the unoccupied built-up area has the status of historical heritage protection, indicating the population’s low interest to reside in high heritage protection level plots. In addition, 38% of the heritage plots are of bad physical condition. This situation generates several contradictions and also debate related to the level of protection and whether it delivers the desired results or it is indeed promoting lack of maintenance within the built-up area. Following the outcomes, the higher level of non-occupancy is protected the most, and more and more people leave, the worse the physical state of the building turns. These correlations show that interdependencies between urban indicators (see Figure 1) should be carefully considered before designing potential solutions.

Regarding the diversity of functions as a pillar promoting urban vitality, we discovered that the entire Intramural area, non-residential land-use makes up 38.90%, from which roughly one-third (32.64%) is public facilities. This figure is divided into either public (44.28%) or private (55.72%) facilities – understanding public facility as a plot owned by national, regional or local government. Public facilities provide support to residents as part of the public administration and provide two types of services, at the level of the entire city and at the neighbourhood level. One would expect that Intramural, as part of the core city centre, is home to several public facilities that service the city as a whole, which totals 39.86%; however, it is surprising to note that only 4.11% of public facilities provide support to the neighbourhood. From the entire share of private facilities 76.91% are religious land-use, but many plots are empty or inactive. The lack of facilities which provide services to neighbourhood level and the unbalance between public-private ownership of publicly used facilities, city-neighbourhood services are increasing the lack of attractiveness to bring inhabitants into the Intramural Area since they do not feel

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there are enough facilities to have a good environment to live in (based on several newspaper statements from the community of inhabitants in the area).



Figure 1. (1) Level of unoccupied, darker the emptier (left), (2) Level of building state. Red bad physical state (centre), (3) Level: intervention + unoccupied (right). Source: Compiled by the authors in 2014.

Besides the built-up analysis of interrelated indicators to urban vitality, the public space can also potentially be analysed since it is part of the duality to generate urban vitality. Intramural is characterized by high built-up density and intensity of use. The public space is full of parked cars that block pedestrian spaces, highlighting another important issue for liveability and vitality. Intramural is not a pedestrian area per se, but the city centre and its urban fabric are not suitable for cars, leading to conflicts between pedestrians and cars. The analysis carried out calculations by isochrones to examine the potential for creating a more pedestrian-friendly environment. The physical distance between the two most distant points in the area is less than one kilometre, easily walkable in 5 to 10 minutes. However, this demands an understanding of the social position of the inhabitants in the area. There are two opposing groups: 1) those who support improving the walkability of the area (the majority are residents of Intramural) and 2) those who advocate for additional parking infrastructure the people (most are private companies as well as the municipality).

Therefore, the lack of urban vitality worked as an indicator allocating complexity of the urban performances such as: the lack of success on policies protecting heritage which led to lack of attractiveness to people to live in the centre. This is because of raising of the rental prices due to speculation happening in city centres regarding tourism, combined with the high degree of maintenance that is needed to preserve the built environment. The intense level of physical interventions is not framed in any strategic plan, therefore, getting lose in the mass of issues regarding the lack attractiveness and without a coherent or strategic vision of where to go. These indicators were generated thanks to an intensive use of a database linked to a GIS platform for Intramural area. These tools supported the planners in order to be able to find out themes, standards and patterns going deeper on the issues of the area beyond just a vectoral reading of the city. We could read and interrelate alphanumeric attributes that helped to articulate a more complex reading of Intramural's issues.

From the lack of attractiveness towards framing opportunities in Intramural

As noted above, in 2014 the area had 4,912 inhabitants, compared to 13,000 in 1960, indicating a structural problem for maintain urban vitality. Taking into account the already bad

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conditions of the housing patterns in the 1960s, one cannot expect a return to such high occupancy levels: however, it is clear that 5,000 inhabitants cannot maintain urban vitality in the area either. According to the document elaborated by the planners based on the urban indicators' analysis, it resulted that more than 300,000 m² of residential built-up space are available. Based on the coefficient of contemporary densities on historical centres based on historical studies within the area and similar city centres in the context of south of Spain, the realistic scenario for additional residents would fall between 5,000 and 6,200 people. In other words, Intramural is currently at only 50% of its capacity, which was interpreted by the actors involved in the diagnosis as an opportunity rather than a problem. This was seen as an opportunity for elaborating a different planning strategy in southern Spanish planning culture – to revitalize the core city rather than keep urbanizing the rural surroundings. This could be easily visualized in a simple calculation, based on the calculation the developers of the urban plan proposed during 2015, highlighting that investing in Intramural instead of in new urban developments in the outskirts would save 150 hectares of additional land consumption. This conservation would reverse the current urban planning trend in Jerez de la Frontera city and provide a best practice for the entire Andalusia region, which is marked by urban sprawl trends rather than densifying the existing built-up environments in cities.

Sharing the outcomes, changing dynamics and trends of interventions in Intramural

The main purpose of the participatory process was to discuss and share the outcomes of the intense PSS-based relational analysis of space described in this article. Therefore, the whole process focused on the question about how to bring more urban vitality in the area, which helped to integrate and coordinate the complex participatory process carried out. The question explored was: How to increase the resident occupancy the Intramural? (Figure 2) Two activities provided the format to generate wide public participation and discussion of this complicated issue: 1) a public exhibition as the space for interaction (discussed below) and 2) public activities about the outcomes of the diagnosis document with focus groups.



Figure 2. Inhabitants' community meeting. Source: Compiled by the authors in 2015.

The public exhibition "DNA Intramural": explaining the quantitative side of lack of urban vitality

The DNA exhibition served two main goals: 1) to present the main outcomes from the first analytical phase and 2) to gather inputs regarding Intramural's problems and opportunities from the its inhabitants as well as the citizens of Jerez:

- 1) Sharing the results from the diagnostic study: The area outside the meeting room was filled with all the quantitative conclusions, illustrated as maps, statistics, images and texts.

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The materials highlighted the aforementioned urban indicators. The dialogue carried out was mainly based on aiming to communicate- from a quantitative approach- the lack of urban vitality in the Intramural area. Also, was explained that the lack of urban vitality had causal relations to many other issues taking place in the area i.e. Heritage protection level, level of interventions in the last 30 years. To engage with the local community, we developed four guided visits to the exhibition as an aim to support key actors in the process of understanding the added value of our analytical approach, which combined physical and social aspects of Intramural.

2) Gathering stakeholders' inputs: The active contribution session took place inside the meeting room of the community centre, via a facilitated discussion. The session consisted of several parts. First, a SWOT analysis defined by keywords provided by designers was filled out by the visitors of the exhibition on boards on the wall. In a second step, we approached the results of the SWOT analysis in a more interactive way and made it speak more directly to the diverse types of audiences. Second, a map of the area invited them to mark their favourite places and provide comments. Each participant was free to draw and/or write whatever they felt after seeing the whole exhibition. The third participatory tool was a map about participants' memories of Intramural. This map was filled by points expressing a specific location on a big map of the area which had attached a note. It showed a mapping of those areas identified most within Intramural, seen from the viewpoint of exhibition visitors/ participants. This means those were the favourite spots for the participants. The diverse groups participating tended always to locate their favourite spots in similar zones within the area studied. Therefore, either all the participants belonged to same community with similar spatial dynamics, or those areas had enough attractiveness to bring people together. This shows the importance to invite diverse communities to an integrated process. By using the same/ similar methods the organizers were able to reach out to the diverse groups within the area. The fourth tool was an empty wall to be filled with photos, texts, objects (whatever the participants wanted to place there), about all the events (cultural, art exhibitions, guided visits to the exhibition, interview with specific inhabitants, etc.) generated outside of the exhibition's location. This step revealed a lot of different activities as well as the diverse backgrounds of the persons involved in public participatory process.

The public activities about Intramural area

Two strategies were employed to generate public interest in the events: 1) activities around the DNA exhibition, designed to spur the interest of diverse actors involved in the process, and 2) activities embedded through cultural events to engage people from other neighbourhoods of the city in the Intramural Planning Process. Both strategies helped to obtain a varied perspective on different interests of the inhabitants of Intramural as well as encourage resident engagement throughout the city to jointly determine the desired future pathway of the area.

1) Activities around the DNA Intramural exhibition were based on promoting visits during the entire month of the exhibition, guided by planners. Discussion sessions with elderly inhabitants were combined with a debate with decision-makers and diverse experts about the conclusions from the urban diagnosis document elaborated from practitioners. Activities that focused on families were based around leisure activities in different private and public spaces of Intramural.

2) Activities to attract citizens from Jerez were based on cultural activities related to use private dwellings of Intramural inhabitants to create a cultural route attended by a wide range of diverse actors (inhabitants, cultural organization committees, politicians, experts,

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population out of the area, etc). This type is called “redetejas” (translated from Spanish as a network of rooftops) and it is a national initiative to promote private spaces as a potential space to host diverse cultural activities. Also, we organized a cultural exhibition on the Intramural area, displaying works by artists from various countries, complemented by facilitated public discussions.

The outcomes of the participatory process

The series of activities and physical interventions produced during those three months of participatory process promoted a change in the debate about the area. Before all the process about urban vitality analysis started in Intramural, the discussion between decision makers and inhabitants had always been based on the dilapidated physical state of the built-up area. However, due to the use of geo technological tools and a deeper understanding of causal aspects referring to the lack of urban vitality as the cause of that dilapidated physical state, the decision makers were able to reflect on the way of intervening of the area. They opened a discussion towards a more social driven intervention rather than just purely physical intervention. This was important since it alleviated the tensions between inhabitants and decision makers, promoting a debate about priorities and strategies. Both actor groups used the insights (data and analysis) as tools to discuss amongst themselves. This caused a change of trends and dynamics not just in the way of intervening, but also using the outcomes as a vehicle to generate discussions about the future of the area.

Discussion and Directions for Future Research

The two main goals of our research were: assess implementation of geo technologies in planning processes, and to understand how PSS can be adapted to a specific planning culture. The idea that PSS improves planning practice *per se* has been analysed in this paper, revealing that it is not only about technology in itself but how, when, why and mainly with and for whom it is used. This means that depending on the existing planning procedures rooted in the specific planning culture, the collaborative approach takes different shapes. Therefore, the role of PSS will be different as well. In this case, it proved useful when generating new, detailed quantitative analyses, enabling a more targeted discussion of the issues of the area (specifically the issues of urban vitality), while in the participatory process the technology was not needed at all since the participants were demanding a more analogue interaction with the maps and SWOT analysis. The more accurate analysis and possibilities to understand the more performative side of cities (such as the analysis of urban vitality) helped to understand how potential interventions could be more tailored to local demands of a specific context. Therefore, the combination of two approaches helped create awareness among different actors and decision makers. On the other hand, the qualitative process was developed through the use of more participatory and rooted tools to be able to communicate the change of trends in the area.

The core academic reflection from this empirical process is that research should not seek to modify planning procedures and methods in order to achieve technological implementation, but rather focus on adapting their technology to the specific demands from practice. In other words, there is a need for researchers to develop strategies on how to integrate available technologies within current planning practice methods and procedures. This approach makes sense if the specific planning culture is open to implement those issues, therefore before thinking on PSS implementation, it is essential to understand what type of planning context is given and whether it has included and normalized in its process the openness to geo technological tools. The main concern is not how to find a universal role for technology in current planning practices but to understand the demands of local planning culture and then select the most suitable tool/method for the methodological challenges practitioners face.

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As demonstrated by the case of Intramural, the PSS was useful in so far as the technologies used in the processes were flexible enough to be adapted to the specific practitioner's context based-challenges. The tool proved to be useful and improved the planning analysis because its role was to support a planning process based on a collaborative approach. The goal was not only to provide quantitative data of the area's features but to facilitate discussions among all key stakeholders on potential intervention strategies. On this vein, practitioners will be more aware of local demands, decision makers would have to commit to inhabitant's needs, and generally joining the collective knowledge the potential results might have higher chances to be successful.

The PSS deployed in Intramural allowed practitioners to understand not only the physical features of the city but also to work with the concept of urban vitality, a method for studying the urban dynamic/urban life along with the static features of the urban fabric. In this sense, the modelling process of the simulation is essential to relink the disconnected relationship between planner and citizen. This method encourages better communication process between diverse stakeholders, affected groups and individuals and decision-makers. Future research and experiments of implementing urban simulation as the last phase of the Intramural masterplan process could promote a different communication process between experts and non-experts in the decision-making process. This approach provides a valuable step towards promoting the idea of "the city that plans" (UN Habitat, 2016) and a more open and inclusive decision-making process supported by technology.

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Social Impact Evaluation in Culture-led Regeneration Processes: Reflections on the “Social Return On Investment” Perspective

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Considering that a relevant challenge for social enterprises is to assess their social impacts, this paper approaches this issue by investigating cases that exemplify engagement in culture-led regeneration processes. Assuming the paradigm of ‘Complex Urban Landscape’ (CUL) as a holistic approach focused on the role of relationships, and conceiving the social enterprise as a hybrid organisation potentially affecting the urban context, the author presents a reflection on one of the most-used and much-debated social impact evaluation methods, the Social Return On Investment (SROI). The research deals with three main challenges: the difficulties in integrating cultural heritage as commons within urban planning and practices; the potential role of social enterprises to transmit cultural value through experiences of culture-led regeneration processes; and the exigencies of planning and developing social impact evaluation capable of critically observing and narrating the theory of change proposed by social enterprises.

Keywords: Historic Urban Landscape (HUL), Complex Urban Landscape (CUL), social enterprise, SROI.

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Introduction

Considering the request of the United Nations Educational, Scientific and Cultural Organization (UNESCO) to make operative the Historic Urban Landscape Approach, Ragozino (2016) has identified and analysed tools focusing on its social and economic dimensions. The model of social enterprise, here intended as an enterprise addressing social issues, has been identified as an effective socio-economic tool in support of the regeneration of the urban landscape coherently with UNESCO objectives, principally thanks to its capacity to construct new relationships among people as well as between people and the urban landscape. This paper aims to observe social enterprises embedded in culture-led regeneration processes by proposing a reflection on the Social Return On Investment (SROI), an evaluation method coming from financial field to assess social outcomes.

In the scientific literature, 'culture-led regeneration' is understood as a process through which culture is seen as the main catalyst and engine of regeneration, and functions to provide a new basis for integrating economic, social and environmental issues, addressing key planning problems in diverse ways, and involving the local community in generating substantial changes through shared solutions (Evans & Shaw, 2004; Hudec & Džupka, 2016; Pendlebury, 2002; Tavano Blessi *et al.*, 2012). Interesting examples of such experiences include those of Temple Bar (Dublin, UK), the former Victoria Street Market (Belfast, UK), Liverpool (UK) as European Capital of Culture, the Saint Michel District (Montreal, Canada), and the regeneration of the historic centres of Genoa and Bologna (IT).

To deepen these scopes, it could be useful to clarify how the concept of cultural heritage has evolved from different points of view since 1970s to the present. From an objective logic of designation, the term 'cultural heritage' has taken on a subjective logic of appropriation that includes the dimension of 'common heritage', as presented in the Charter of Venice (ICOMOS, 1964; Smith, 2006; Tweed & Sutherland, 2007; Vecco, 2010). The cultural heritage discourse has included not only the physical consistency of the heritage but also that of intangible heritage – also called 'lived cultural heritage' – which refers to oral traditions and expressions; performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe; and traditional craftsmanship (UNESCO, 2003). In this way, 'the generic concept of culture embraces what any given society has (material possessions and objects), thinks (traditions and beliefs) and does (behavioural patterns including recreations), together with how it relates to and interacts with its natural and man-made environment' (Rodwell, 2018, p. 193). This new inclusiveness has made it possible to focus attention on the interrelationships between heritage, identity and belonging – and to begin speaking about identification, acknowledgement and protection of heritage as a human need (Harrison, 2010; Sykes & Ludwig, 2015).

All these new trends have moved the object of protection from the traditional monument to the city and the territory in a new holistic vision encompassing economic, technical, environmental, social, geographic, aesthetic, urban and natural aspects (Veldpaus & Pereira Roders, 2014; Rey Pérez & González Martínez, 2018). These changes have implied a new assumption of urban heritage as 'landscape' in which 'meaning is created through interactions between individuals and objects and is heavily influenced by cultural background', and that 'different meanings come from different groups of people [...that are seen] as important in the future growth of towns and cities and so need to be considered part of sustainable development' (Tweed & Sutherland, 2007, pp. 64-65).

The challenge regards the practical application of this new paradigm in rational planning environments where the risk of commodification and marketisation can be dramatic,

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significantly reducing the social utility of heritage, with the consequence that people are expelled from the neighbourhood where they live (García-Hernández *et al.*, 2017; Sassen, 2014; Smith, 2002; Sykes & Ludwig, 2015).

Taken as a complex whole, these topics highlight the close relationships between the current trends of urbanization, the challenge of cultural heritage conservation and reuse, and current urban planning strategies. On the one hand, the approach to heritage conservation – gradually changing from mono-disciplinary to integrated – includes community engagement and the management of change at the city level (Ginzarly *et al.*, 2019; Guzman *et al.*, 2018; Rey Pérez & González Martínez, 2018). On the other hand, more and more political and urban agendas are focusing on cultural heritage as one of the pivotal core strategies for sustainable urban development (European Commission, 2014; Horizon 2020 Expert Group on Cultural Heritage, 2015; Potts, 2016; UNESCO, 2016a). Specifically, in 2011, UNESCO adopted the Recommendation on Historic Urban Landscape (HUL), conceived as a landscape approach to ensure the integration of cultural heritage policies and management concerns in the wider goals of sustainable urban development (Ginzarly *et al.*, 2018; Rey Pérez & González Martínez, 2018). The HUL concept will be approached here in detail, taking into account the rich debate it has generated. To make it more operative for urban areas, this article assumes as paradigm the theory of Complex Urban Landscape (CUL) as a holistic approach for planning and development in complex urban contexts, aimed at focusing on intricate relationships (Fusco Girard, 2013, 2014; Angrisano *et al.*, 2016).

This systemic logic is functional to understanding how culture and spaces of culture can make the difference within urban regeneration processes. It also serves to address how the social entrepreneurial dimension can drive cultural value through its change theory. Taking into account that operatively it is very case specific, it is now a consolidated idea that culture can renew the image of a city and of its neighbourhoods, cement the pride and sense of belonging of its residents, attract investments and tourism, improve quality of life and social cohesion, create new jobs in the cultural and creative sectors, and so on (CHCFE Consortium, 2015; Ferilli *et al.*, 2016).

Within these processes, social enterprises can play a role in finding an effective way to integrate social value creation into the achievement of economic stability or economic objectives, and the enhancement of social/cultural experience (Angrisano *et al.*, 2016; Ragozino, 2016, 2019). As hybrid organisations, social enterprises span the boundaries of social and entrepreneurial dimensions by linking or mediating conflictual actors, actively engaging the local community, and changing urban and social priorities. To make this happen, they need long-term sustainable strategies that integrate top-down and bottom-up processes to connect institutions and citizens.

Coming to the crux of the matter, it is necessary to highlight that the evaluation of social outcomes – a challenge in itself – is closely linked to the previous two issues because ex-ante, in itinere, and ex-post operative assessments could genuinely support decision making in complex urban contexts (Cicerchia, 2015; Fusco Girard & Nijkamp, 1997; Harvey, 1989; Nijkamp *et al.*, 1985). The emphasis on SROI derives from a wide theoretical and practical debate and focuses on the effectiveness of investments in social terms. This method permits deepening the theory of change of such initiatives through a proactive engagement of stakeholders in phases of mapping outcomes and construction of indicators. The proposal advanced represents a support tool for these two pivotal phases of the method, in which it is challenging to deal with the complexity of the changes in themselves and to link them to the urban context. It is a framework of analysis that serves as a support for identifying and constructing sets of impact indicators in order to give an accurate picture of the linkages

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between the social enterprise initiative and the complex urban landscape approach.

The next sections explore the links between culture and urban planning with a specific focus on HUL and CUL, the role of social enterprise within culture-led regeneration processes, and the evaluation of its social impacts in complex urban contexts. A final discussion concludes the work.

Landscape Approaches for Historic Areas

Based on the principles of historic areas as defined in 1976, UNESCO presented the 'Recommendation on Historic Urban Landscape' in 2011 and published 'The HUL Guidebook' in 2016 (UNESCO, 2016b). HUL is defined as 'the result of a historic layering of cultural and natural values and attributes' also including 'social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity' (UNESCO, 2011, p. 52). Specifically, the HUL approach focuses on urban landscape as a key resource for improving urban quality and liveability – and to pursue a more equal economic development based on social cohesion within an ever-changing global context. This approach is intended as an instrument for managing sustainable change in urban environments from a heritage perspective, related to the idea of the 'right to the city' (Lefebvre, 1967, p. 35) as well as involving citizen participation and urban governance (Rey Pérez & González Martínez, 2018). Assuming a landscape perspective means proceeding one step further in the differentiation between historic areas and contexts of new development, as well as between built heritage and its contexts – by going beyond the traditional conservation approach to the historic environment (Bandarin & Van Oers, 2012). In this sense, the HUL approach promotes the idea of coordinating urban conservation to regeneration by involving citizens in the identification and management of heritage values (Rey Pérez & González Martínez, 2018).

The HUL approach, as presented in 'The HUL Guidebook' (2016b) consists of six steps:

- Identify resources (mapping and survey of cultural and natural resources);
- Identify attributes and values (involve stakeholders and experts in the identification of attributes and values of cultural and natural heritage);
- Understand vulnerability (assess vulnerability of heritage to socio-economic stresses and climate change);
- Carry out planning and design for conservation/regeneration (identify heritage sensitivity areas and develop regeneration projects);
- Prioritize (identify and prioritize actions for conservation and development);
- Realize (establish partnerships and local management frameworks for each project).

Operatively, UNESCO aimed at enriching its HUL approach with a toolkit consisting of tools, guided by aims of research and driven by applications within the following categories: community engagement tools (publicity, dialogue and consultation, community empowerment, cultural mapping, etc.), knowledge and planning tools (planning, GIS, big data, morphology, impact/vulnerability assessment, etc.), financial tools (such as grants and public-private cooperation), and regulatory systems tools (laws and regulations, traditional customs, policies and planning, etc.) (UNESCO, 2016b).

The experiences realised through pilot initiatives developed in different cities around the world have been collected in 'The HUL Guidebook' (2016b). Also, an observatory on HUL named 'GO-HUL' was established as a space for collaboration among cities working on the

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implementation of HUL-based projects in which to share resources, activities and outcomes. In the guidebook, seven case studies present the HUL approach applied in practice: Ballarat (Australia), Shanghai (China), Suzhou (China), Cuenca (Ecuador), Rawalpindi (Pakistan), Zanzibar (Tanzania), Naples (Italy) and Amsterdam (Netherlands). Each demonstrates the application of a variety of HUL tools suited to each local context.

As evidenced by the literature, the innovation of this approach can be observed first and foremost in a paradigm shift from conservation as a value in itself to conservation as a tool for managing urban changes without damaging cultural values (Gravagnuolo & Fusco Girard, 2017). Secondly, a point of innovation is in the concept of dynamism in which significant places are to be sustained in harmony with an ever-changing present, avoiding conservation that is frozen in some particular time span. Here, the concept of the immutable and unique value of a given heritage is transcended by the possibility of conceiving many overlapping and interconnected values that reflect different points of view (Sykes & Ludwig, 2015). This vision implies a proactive involvement of local stakeholders and citizens in planning the future development of their city and a wider access of stakeholders in heritage management (Rey Pérez & González Martínez, 2018). Thirdly, there is the possibility of incorporating new attributes for heritage evaluation in accordance with community and stakeholder perceptions (Van Oers & Pereira Roders, 2013).

Conversely, some limits and obstacles to this approach are presented by Rey Pérez & Gonzalez Martínez (2018) and Gravagnuolo & Fusco Girard (2017). The limits consist of three main issues: comprehensive surveys and mapping of the city's natural, cultural and human resources have resulted in enormous amounts of information and this requires access tools and investments not always available to researchers or officials; there is a lack of specific evaluation tools needed to support the decision-making process promoted by UNESCO; and the fact that the HUL recommendation remains widely unknown. The obstacles, however, are related to: the systemic nature of the approach, which is in contrast with the legal and administrative barriers of heritage areas; and the nonparallel visions of heritage and planning, specifically the difficult challenge of implementing a practical integration of the social and cultural dimension of cultural heritage conservation in urban planning, which has not permitted the development of the HUL's transformative potential.

In order to cope with the complex objectives of the research, the author assumed 'Complex Urban Landscape' (CUL) as scientific approach, which goes beyond the logic of layering of the HUL and proposes a system in which six categories of landscapes – natural, social, infrastructural (man-made), cultural (man-made), human and financial – are combined and interconnected giving a specific character and identity to the city (Fusco Girard, 2013, 2014) (Figure 1).

The character and identity of a city can be evaluated through the intensity of the combination of these landscapes. CUL is the 'visible result of a complex dynamic and adaptive system, focusing on relationships' (Fusco Girard, 2014, p. 3) and affected by external forces (climate change, processes of urbanization/migration, ageing of population, economic globalization, etc.) impacting on them and threatening their equilibrium as an urban system. The institutional capital governs accesses to various forms of capital through regulations, laws, etc. and regulates the interdependencies between the different landscapes. Through the practical activities of the conservation, maintenance and planning of each landscape, the urban city demonstrates its degree of resilience and capacity to react to external challenges (Figure 2).

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Figure 1. Elements of the complex urban landscape (CUL). Source: reproduced from Fusco Girard (2014).

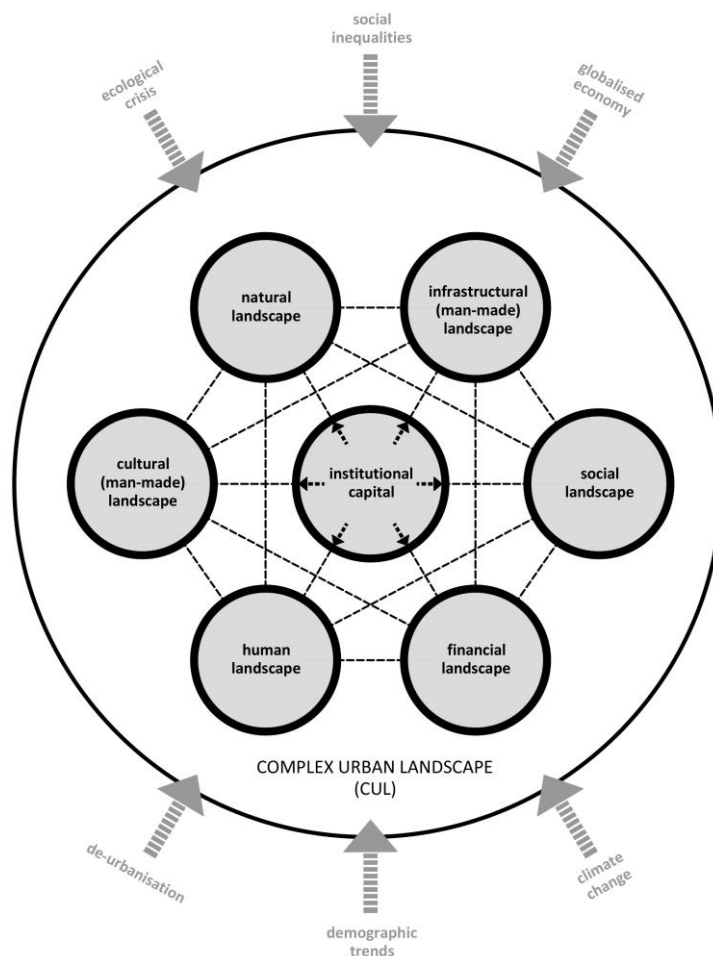


Figure 2. The complex urban landscape (CUL). Source: Reproduced from Fusco Girard (2014).

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The Role of Social Enterprises in Culture-led Regeneration Processes

It should be pointed out that an unanimous definition of social enterprise has not been established and that rather different definitions and models are growing within European and international geopolitical contexts (Alegre *et al.*, 2017; Esposito De Vita & Ragozino, 2016). 'Many governments around the world encourage community-based social entrepreneurship because of its ability to transform society. [...] Social entrepreneurship provides an opportunity for society, individuals, corporations, organizations and the government to address any unmet social issue' (Vasi, 2009; Ratten & Welpel, 2011, p. 283). In the first decade of 2000, the European Commission defined a social enterprise as 'an operator in the social economy whose main objective is to have a social impact rather than make a profit for their owners or shareholders. It operates by providing goods and services for the market in an entrepreneurial and innovative fashion and uses its profits primarily to achieve social objectives. It is managed in an open and responsible manner and, in particular, involves employees, consumers and stakeholders affected by its commercial activities' (European Commission, 2011, p. 2).

In the literature there are different points of view, such as that of Wagenaar and van der Heijden (2015), who see social enterprises as actors who 'produce social goods (public services and products) in a democratic way (non-hierarchical, non-profit, democratically, sustainable, responsive to local and individual needs)' (p. 126), and Moulaert *et al.* (2010), who present social enterprise as a form of social innovation that experiments with alternative ways of creating public value and doing governance work. Pearce (2003) defined social enterprises by setting them in the context of the 'Three Systems of the Economy' (p. 25) (Figure 3): 1) Private Profit-Oriented; 2) Public Service Planned Provision; and 3) Self-help Mutual Social Purpose – also referred to as the 'First', 'Second' and 'Third' systems. He understood the social enterprise as forming part of the third system, characterised by the market-driven trading in which the social economy operates.

Healey (2015) argued that social enterprises promote initiatives led by citizens aimed at improving daily life conditions in places where people live, that they range from the very small scale to running significant businesses such as delivering housing or health care services, and that they increase entrepreneurship and regeneration of neighbourhoods. Usually social enterprises, as well as Third System organisations, plan social changes by constructing medium- and long-term objectives and by identifying all the conditions (outcomes) that must be in place for the goals to occur (impacts). A codified and diffused method is the 'Theory of Change', it is a flowchart that comprehensively describes and illustrates how and why a desired change is expected to happen in a particular context. It is divided into three phases, from the input to the performance assessment phase (activities and outputs) up to the impact assessment phase (outcome and impact) (Kail & Lumley, 2012; Hehenberger, 2013; European Commission, 2014; Social Impact Investment Taskforce, 2014; Zamagni *et al.*, 2015) (Figure 4).

Getting to the bottom of the matter, it is relevant to highlight that in the scientific literature social enterprises are considered drivers for urban regeneration for two main reasons: their transformative capacities affect places in terms of development opportunity (increasing employment, stimulating new entrepreneurship and producing collective services and goods), and as proactive actors contributing to planning decisional processes – both as bridges among conflicting actors and as promoters of alternative plans (Somerville & McElwee, 2011; Bailey, 2012; Le Xuan & Tricarico, 2013; Ragozino, 2016, 2019; Sager, 2016).

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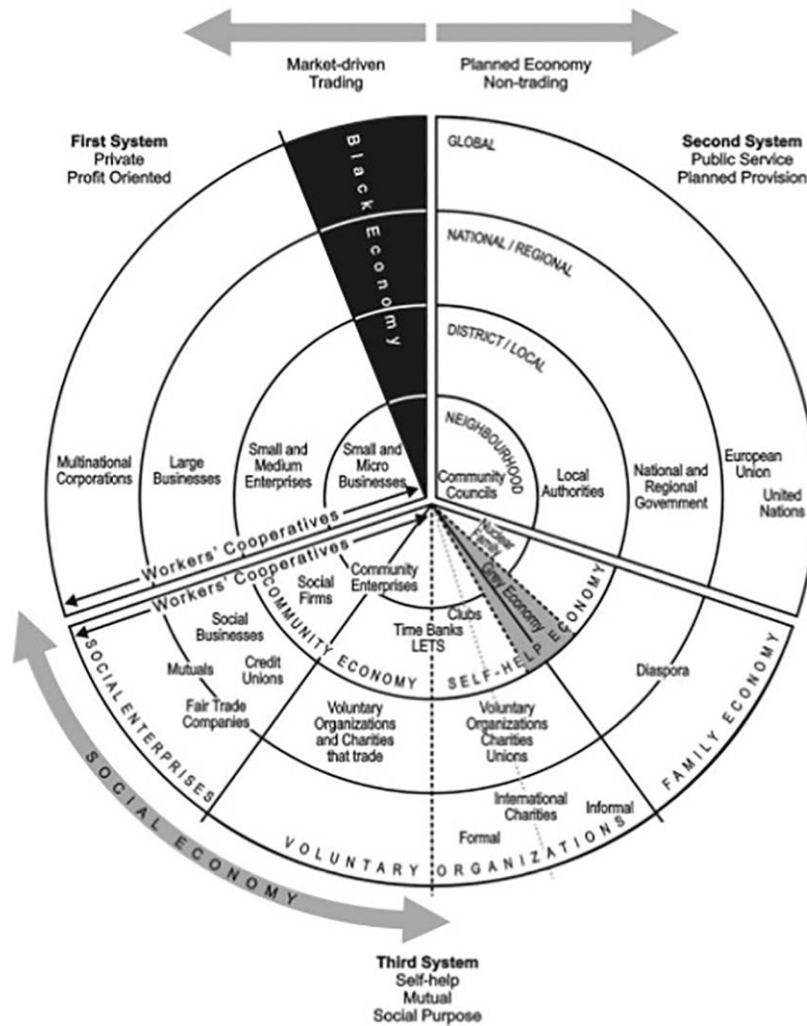


Figure 3. Three systems of the economy. Source: Pearce (2003, p. 25).

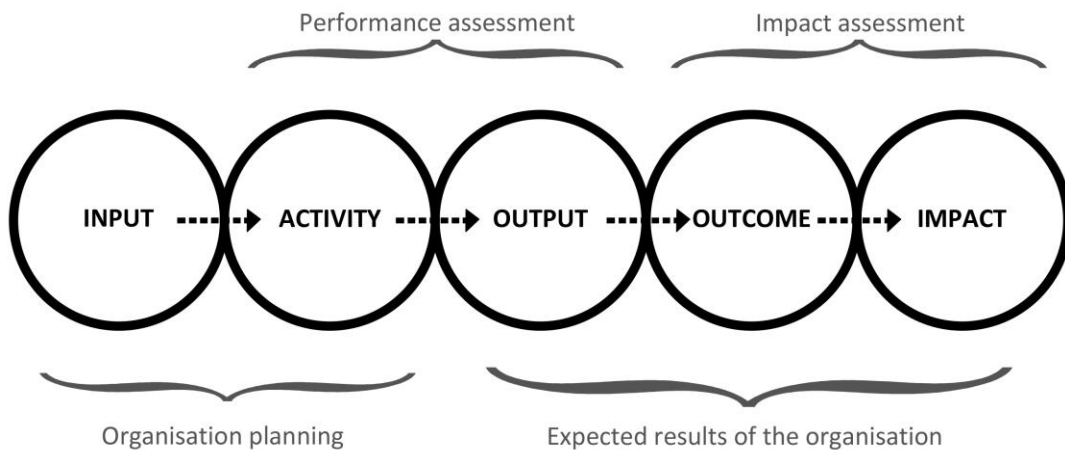


Figure 4. Theory of change of social enterprises. Source: Ragozino (2018, p. 138).

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To frame the role of social enterprises within urban planning and regeneration processes, three following key points emerged from the literature and case studies. Capacity building, conceptualised by Healey (2015), is the interplay of knowledge resources and relational resources that generates mobilisation capacity. The author clearly presented this concept through the Scottish civil society initiative 'Glendale Gateway Trust', which has chosen to pursue their social objectives in challenging and deprived areas, mainly in urban contexts that appear unattractive for investments and social enterprise, aiming at building 'areas of social compensation' in reaction to large-scale urban interventions (Wagenaar & Healey, 2015). It is significant that 29% of social enterprises in the UK are active in the top 20% of the most deprived areas and 83% of their products are reinvested in the communities where they are earned (Bailey, 2012; Murtagh & McFerran, 2015). As a successful experience of a Neapolitan social enterprise embedded in a territory at risk – Scampia (IT) – it is worth-mentioning 'Kumpania - intercultural gastronomic routes'. It brings together a group of professionals in the fields of education, research and law who, together with a group of Roma and Italian women of refuge, work in the field of intercultural gastronomy as a starting point to reconsider the intercultural experience, the level of information and awareness of the local community, the fight against ethnic and social discrimination, and the testing of models of economy and sustainable production (La Kumpania, 2019). A process for acquiring assets was developed at the local and neighbourhood level to carry on community empowerment policies and initiatives (Aiken *et al.*, 2011; Bailey, 2012). The acquisition of these assets can be through a transfer from central to local governments, a grant or loan, or negotiation.

With regard to the last point, this study focuses on special cases in which the asset has a designated cultural value or a collective value recognised by the community. The social enterprise, in this sense, could transmit the cultural value as a catalyst to stimulate regeneration processes (Ragozino, 2016; Beck & Brooks, 2018). An interesting experience bringing together the readiness of the social enterprise to operate in deprived areas and to reuse heritage assets is represented by 'Real Ideas Organisation' (RIO), a social enterprise located in one of the 39 most deprived areas of the UK, which is engaged in the cultural heritage reuse of buildings and places of the Devonport area. In 2007 this social enterprise started in Plymouth by securing a grant of £1.75 million from the government's Community Assets Fund, and then with help and support from the Plymouth City Council and the former Devonport Regeneration Community Partnership, it refurbished the derelict Grade I listed Devonport Guildhall and reopened it to the public in 2010 as a social enterprise hub and community venue. This was only a seed – at present its cultural activities and built heritage reuse projects have a strong positive impact on the regeneration process of the deprived area as demonstrated by their last impact studies 2016-2017 (Real Ideas Organisation, 2018).

Social Impact Evaluation of Social Enterprises: What if it is about Cultural Heritage?

Theories and models of social impact evaluation are among the most debated issues regarding the theme of social entrepreneurship, mainly since 2011, when the European Commission adopted the Single Market Act II, declaring social economy and social entrepreneurship key elements for social innovation, social cohesion and trust (Millar & Hall, 2012; Grieco *et al.*, 2015; Zamagni *et al.*, 2015). Just think of the many initiatives of the European Commission (including the Social Entrepreneurship Initiative aimed at promoting this sector, and the European Economic Social Committee, formed to implement a systemic social impact evaluation), the vibrant UK scenario with Social Value UK expanded into Social Value International, and the emergent Italian regulatory framework referred to the new Third System Code (Decree Law no. 117/2017).

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Social impact assessment is important in different phases of a project (from start-up to consolidation and replication) and for different actors (organisations that need to clarify their own shared objectives as well as external subjects, both governmental and private, who need to understand the effectiveness of their interventions). A notable degree of dynamism is evident regarding the geography of actors, stakeholders involved and models of welfare (from state to society). These models evolve in response to the transition from 'welfare state' to 'welfare society', in a context that scholars describe as a form of 'austerity localism' in which public sector cuts, the dismantling of state institutions and the privatisation of health services are launching a new round of roll-back neoliberalism. On one hand, this represents a risk of marketisation of the social economy and, on the other hand, it could offer political and social alternatives for communities to make decisions and mobilise resources (Hudson *et al.*, 2003; Billis, 2010; Hildreth, 2011; Arampatzi, 2016; Ragozino, 2019).

Many methods and tools for assessing the social impact of social enterprises have been developed, but the debate is still open on a number of outstanding issues (Grieco *et al.*, 2015). Efforts have been made to analyse and catalogue the methodologies used, starting from the perspective of various disciplines and then developing keys of interpretation and homogeneous categories (Grieco *et al.*, 2015; Nicholls, 2015; Zamagni *et al.*, 2015). Scientific papers have approached the complex and fragmented scenario of these methods such as Zamagni *et al.* (2015), describing multiple dimensions and perspectives, and clarifying the most used ones, such as those based on stakeholders' involvement both in the planning of a change and in the evaluation phase, in which tools can include focus groups involving key stakeholders of the change, (e.g. Appreciative Inquiry method), while others are participatory evaluation models without indicators, (e.g. Most Significant Change method) – while still others, such as SROI, add to these elements a high degree of detail through a monetary evaluation of the costs, benefits and possible positive and/or negative consequences of an activity, project or programme.

Scientifically and practically, SROI emerged as the most used, the most influential, and the most-discussed method (Arvidson & Lyon, 2010; Luke *et al.*, 2013; Pathak & Dattani, 2014; Hall & Millo, 2018). SROI was developed in the mid-1990s by the Robert Enterprise Development Fund, a venture philanthropy organisation in California (USA), tested by the New Economics Foundation in the UK and then by the Cabinet Office, which developed the current six-stage methodology (Nicholls *et al.*, 2012) chosen by Social Value UK as the tool to assess social values. The method was conceived to assess social impact of for-profit organisations, social enterprises, private businesses, funders and commissioners, as well as for developing policies, following principles of accountancy and cost-benefit analysis by assigning monetary values to financial, social, cultural and environmental returns in order to demonstrate broad-impact value creation. SROI measures the value of social impacts created by an organisation in relation to corresponding investments. The final result is a ratio of monetized social value. For example, a ratio of 4:1 indicates that an investment of €1 delivers €4 of social value. Among main risks of the SROI ratio is the tendency to reduce the complexity of the evaluation process to a single dimension, the monetary dimension.

As a result of in-depth SROI analysis in literature and practice, positive and negative feedbacks emerged (Flockhart, 2005; Ryan & Lyne, 2008; Millar & Hall, 2012; Klemelä, 2016). On the one hand, SROI involves stakeholders in more meaningful ways, helps social enterprises to work with commissioners by highlighting their values, reinforces a competitive advantage within public sector service contracts, strengthens relationships between investors and organisations, and enables internal staff to improve strategy. On the other hand, there is a lack of rules and references regarding specific periods of analysis, analysis units, methods for building monetary proxies, discounting rates, and categories of involved stakeholders, all

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of which highlights the unresolved difficulty of monetizing social outcomes, and the impossibility of comparing different analyses.

SROI is structured into six stages (Nicholls *et al.*, 2012):

- Stage 1: Establishing scope and identifying key stakeholders
- Stage 2: Mapping outcomes through stakeholders' engagement
- Stage 3: Evidencing outcomes and giving them a value
- Stage 4: Establishing impact
- Stage 5: Calculating the SROI ratio (value generated per unit invested)
- Stage 6: Reporting, using and embedding

Taking into account a classical theory of change developed by a social enterprises (Figure 4), it is important to clarify that output indicators assess the quality and quantity of goods and services produced by the organisation, while social effectiveness of the intervention is considered in outcome and impact indicators (Hehenberger, 2013). The outcome indicators evaluate the intermediate results produced by the outputs of an initiative, supporting the verification that the hypothesised outcomes have been achieved. This category of indicators should go beyond the responsibility of the organisation and also should include external factors such as the economic conditions of the beneficiaries or obstacles to achieving the objectives. As far as impact is concerned, the evaluation becomes more complex, since the so-called 'deadweight', which consists of a scenario determined by the absence of the organisation's operation, in other words, what would have happened if the organisation had not operated, must also be considered. The impact indicators assess the quality and quantity of long-term effects generated by the organisation's initiatives and, in line with the reflections of this research, should describe the changes in people's lives and the transformation of the context from the local to the global level, considering the external factors that influence them. In view of these considerations, a framework of analysis is presented to facilitate more in-depth study of the social enterprise embedded in a CUL, supporting the construction of sets of impact indicators that can elucidate the value production of that enterprise, which is closely linked to the CUL by capital exchanges as illustrated in Figure 5.

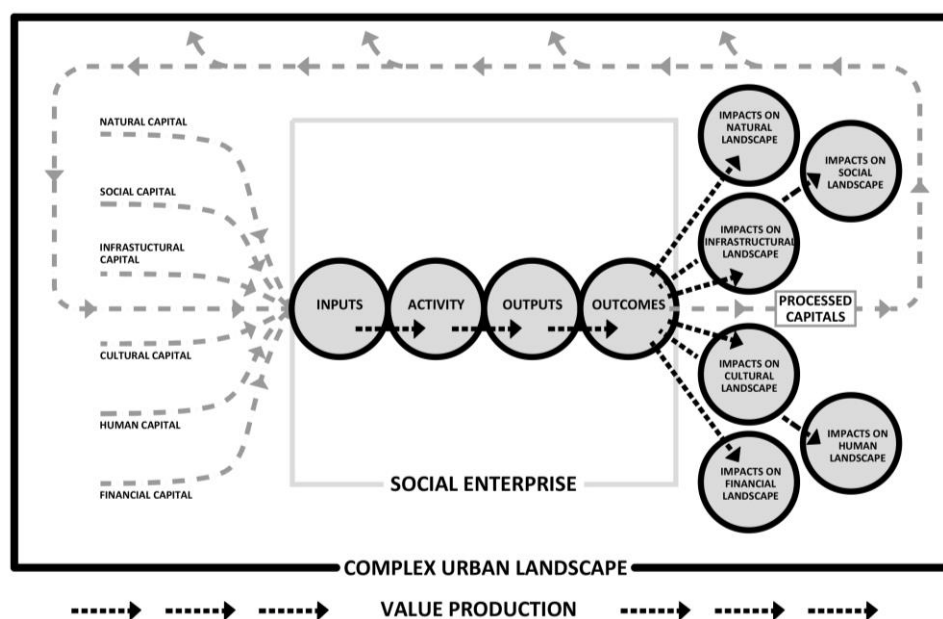


Figure 5. Value production of a social enterprise within the CUL. Source: author's elaboration.

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Starting from the conceptualisation of the CUL (Fusco Girard, 2014), the proposal presents a systematic list of possible impacts that social enterprise can have on each typology of landscape (Figure 6). In particular, the framework analysis is coherent with the CUL in which a logic of 'network of networks' is predominant, as well as the circularisation of resources and the synergies among actors. Potential impacts proposed are exhaustive in themselves but also closely linked to each other. For example, the capacity to generate economic values is linked to the creation of employment and to the improvement of welfare conditions; the nature of social enterprise as incubator for the start-up or consolidation of new businesses combines risk-taking, creativity, innovation and local resources; practices of cultural heritage reuse are linked to the democratic nature and inclusiveness of the social enterprise, which guaranties a fairer circulation of information, controls opportunistic behaviours, promotes active participation of beneficiaries, and promotes forms of dialogue with the local community. Last but not least, social enterprises develop collective interest objectives that influence the public policies of a given territory in terms of avoided costs, increase in the quality of services and products provided, increase in the number of beneficiaries, and creation of public-private partnerships for the provision of services. Case by case, the list of impacts proposed could be used to frame specific fields of analysis to be explored in depth with an SROI analysis. This operation could make the assessment comprehensive of all complex values of the initiative that impact on and relate to the urban landscape.

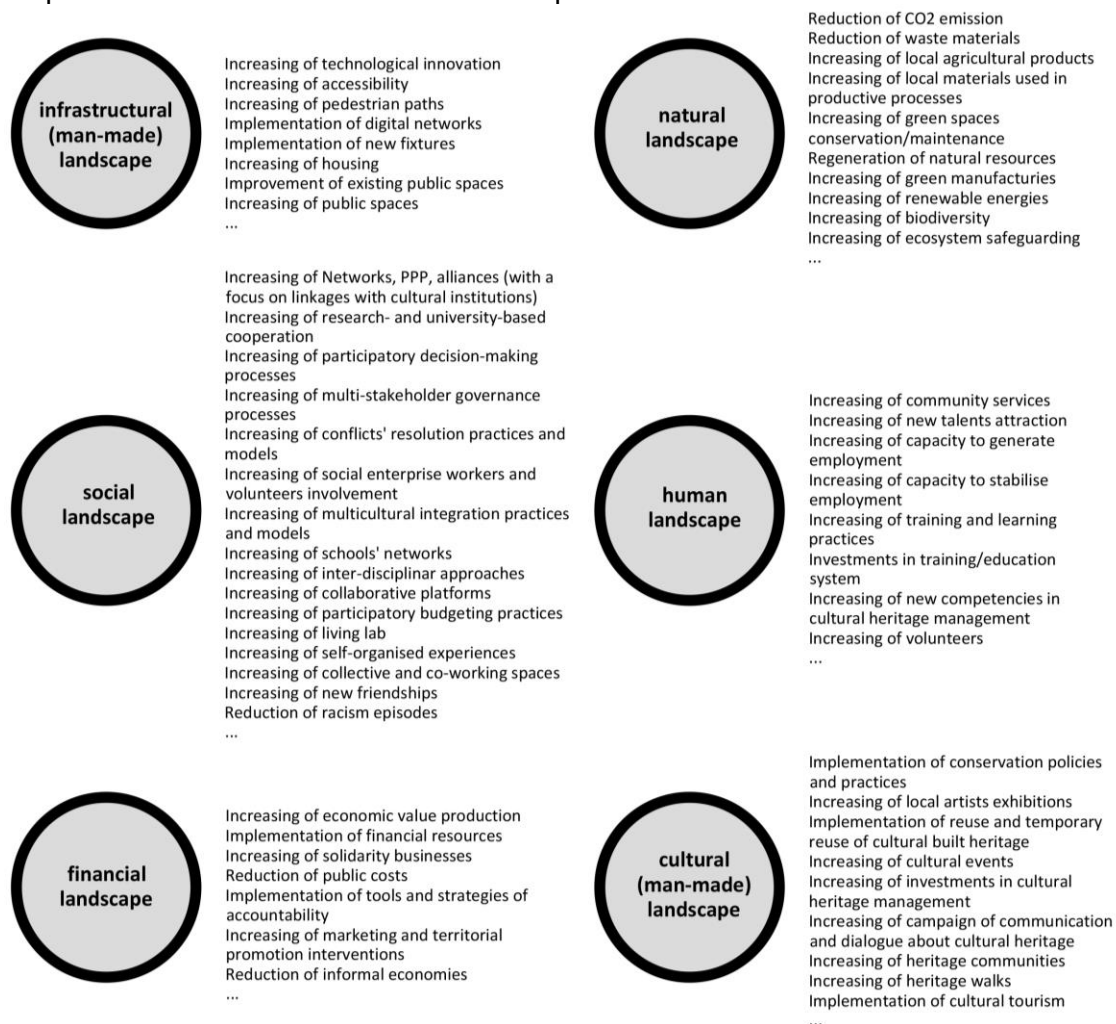


Figure 6. Potential impacts of social enterprise involved in heritage-led regeneration processes. Source: author's elaboration.

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Discussion and conclusion

This paper further extends studies on urban regeneration via an emphasis on complex urban landscapes in which the social enterprise has been identified as an effective method to make operative the historic urban landscape approach (Angrisano *et al.*, 2016; Ragozino, 2016). It represents an attempt to discuss social impact evaluation of social enterprises engaged in culture-led regeneration processes by proposing a framework of analysis that focuses on the linkages between social enterprise and complex urban landscapes, and is aimed at better identifying the potential role of social enterprises within urban contexts. The three-part structure of this paper combined the facilitation of an approach to this historic urban landscape because it closely linked specific discussions as inherent in the complex urban landscapes approach.

First of all, the section dedicated to the role of cultural heritage represents a snapshot of a heritage discourse that varies from democratization and emancipation to exclusion logics, marketization, and risks associated with lobbyism – all parts of the wider challenge to integrate heritage management into planning policies and practices (Smith, 2006; Sykes & Ludwig, 2015; Rey Pérez & González Martínez, 2018). The HUL approach is positioned in this scenario as a way to preserve heritage and to manage historic cities. Distancing itself from the authorised heritage discourse, it represents an attempt to re-configure heritage conservation within urban planning and policies by considering values that citizens attribute to urban heritage relevant for urban agendas, and proposing a systemic vision of historic urban areas as ‘urban landscape’ (Bandarin & Van Oers, 2014; Ginzarly *et al.*, 2018). Conversely, it has been judged as a caricature of the already developed theory of harmonious co-existence by Giovannoni (1931), who approached the city as an urban ecosystem, while others have held that an excessively academic language is used, which does not communicate effectively outside small circles (Rodwell, 2018). With appreciation for the HUL approach as a useful framework for dealing with the complexity of historic urban areas, this paper considers the theory of the CUL an additional fruitful way to observe complex urban dynamics of historic cities/areas in which multiple dimensions are interconnected and give life to different urban characters and identities.

Secondly, in the section of this paper dedicated to the role of social enterprises within culture-led regeneration processes, the social enterprise is seen as increasingly characterised by a focus on the conditions of daily life in the community and by a strong connection to places. These place-based objectives are realised by establishing their organisational presence within deprived or challenged places or communities, by running ad hoc businesses to meet community needs (housing, care services, learning and training, and support for new forms of entrepreneurship), and by acquiring and managing assets (reuse of redundant buildings or open spaces, reuse of cultural buildings and buildings of collective interest). In this last case, in reference to culture-led processes, social enterprises could have the role of raising awareness as well as of stimulating and strengthening cultural and collective values (Aldrich & Zimmer, 1986).

The last section of this paper deals with the difficulty of effectively assessing social outcomes. This task is complicated in and of itself, as demonstrated by the ample scientific and operative debate (CHCFE Consortium, 2015; Cicerchia, 2015) – but this is accentuated when the aim is to assess the impact of social enterprises embedded in complex historic areas that also affect sensitive aspects of the urban fabric. As already mentioned, this approach produces a socio-economic ratio which should not be used to compare the social return in purely financial terms, but above all to give a comprehensive and narrative view of the change brought about

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by a given organisation and the production of value (Arvidson & Lyon, 2010; Nicholls *et al.*, 2012). This has a double meaning, internal and external to the organisation, affecting the urban context in which the social enterprise operates. Internally, in a planning phase, SROI could be useful for identifying which initiatives can have a better impact on the social enterprise itself, on the community, and on urban contexts, while, in a final phase, the evaluation could be useful for understanding where an activity has not achieved the expected result and to provide the logic for a particular constructive or corrective intervention. Externally, the method is useful to better communicate to its counterparts the real effectiveness of its interventions by responding to the information requests of stakeholders. In this sense, SROI is a method that can be used by different actors – from social enterprises to non-profit organisations, from small private companies to large investors, and by the public administration, which must consider economic, environmental and social costs and benefits.

The proposed framework of analysis, supporting the SROI approach in these specific cases, also represents an invitation to include aspects in the evaluation process that are related to creativity and innovation as well as to relationships of the social enterprise with the CUL, thereby deepening the human and cultural experience of workers, volunteers, citizens and users in connection with its multiple dimensions. The principal aim is to have a tool that permits practical planning of social impacts, observation of the effectiveness of investments, improvement of the sense of belonging of the community to places, and extension of significative meanings to cultural experience.

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Temporary Use & Collective Action: How Urban Planning Practices Contribute to Adaptive Capacity Building for Economic Resilience

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Amongst the proliferation of practice- and theory-based concepts that are changing urban planning, the renaissance of *resilience* is proving its potential for impressive implications instead of remaining a brief trend. This paper considers the affordances of an evolutionary and adaptive resilience framing for planning policy and practice in relation to economic development. Specifically, the research presented here explores the explanatory and analytical values of resilience through transformative collective action that incites experimentation, social learning and adaptive capacity building through entrepreneurial temporary uses. In the spotlight is Bremen's temporary use policy of *ZwischenZeitZentrale*, through which temporary use is managed in the wake of economic and structural change. This softer form of policy demonstrates how planning mechanisms can complement strategies to address hurdles following gradual forms of crises. Through the case study of *Plantage 9*, an illustration of collective action is anchored by entrepreneurial temporary use that enable temporary users, temporary use managers and public administrations to build adaptive capacity for economic resilience.

Keywords: Evolutionary resilience, experimentation, social learning, adaptive capacity, temporary use, Bremen

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Introduction

In the context of urban planning, the resilience debate is ongoing and its momentum remains strong. Global policy and support through organizations such as the UN (UN-Habitat, 2017), the International Institute for Sustainable Development and ICLEI – *Local Governments for Sustainability* or institutions such the Rockefeller Foundation (Silva, 2015) fuel its conceptual and political resurrection, while compelling its proponents for greater constructiveness. In contrast to clear and immediate policy outcomes, such as funding for Chief Resilience Officers (Rodin, 2014; Silva, 2015) and reference compendiums (European Commission, 2015), the conceptual translation of resilience for communities and the built environment continues to demand granular nuance and socially coherent framing. This contribution responds to this need by examining planning practices in the context of economic development that combine what Ernstson and other colleagues identify as an understanding of evolutionary resilience ‘in’ cities which is reliant on intrinsic city capacities and networks, as opposed to those that are external and thus ‘of’ cities (2010). Backgrounded by research from the fields of regional studies and economic geography which have broached the resilience concept since the mid-2000s (Swanstrom, 2008; Pike *et al.*, 2010; Simmie & Martin, 2010; Courvisanos *et al.*, 2014, p. 630; Boschma, 2015), this humble exploration examines how temporary uses facilitate adaptive capacity building through collective action and enables communities to, as articulated by Holden *et al.*, ‘correlate possibility’ (2016, p. 298) for economic development and bounce forward toward futures different from historical paths. The additional and analytical opportunities sought through this contribution, are for new encounters with resilience within planning (Stumpp, 2013, pp. 164–166) by examining how temporary use facilitates 1) processes of experimentation and social learning; which can be aggregated to 2) support collective action and agency; to 3) encourage adaptive capacity for economic development. The specific example of the *ZwischenZeitZentral* (ZZZ) and the temporary use case study of *Plantage 9* in the German city of Bremen illustrate the instrumentation of temporary use and discusses its contribution to collective action and adaptive capacity building.

Initial Understanding of Economic Development through Evolutionary Resilience and Adaptation

Numerous attempts to shed light on the complexities of urban and economic transitions range from path dependence to path divergence, and increasing regional economic adaptability to support the latter. For instance, Pike *et al.* discuss and distinguish agents, mechanisms, and sites and interrelationships within uneven and new economic development paths of different geographical regions (2010) whereas Martin proposes a more systematic approach to understanding differences in patterns that help regional economic react (2011). Both of their work acknowledge Swanstrom’s argument for stronger political and social perspectives within a resilience framing of regional economics and forces of influence (2008). A common condition in these conceptualizations of resilience is that *transition* is depicted upon a canvas of economic and structural crises, where change is gradual as opposed to the more popular focus on sudden and unexpected natural catastrophes (Pendall *et al.*, 2010; Simmie & Martin, 2010; Boschma, 2015). According to Boschma, the by-product of neglecting gradual change is a need to counterbalance the general understanding of resilience within economic development contexts and specifically in relation to lethargic patterns of renewal (Boschma, 2015, p. 735). To achieve this, Boschma recommends investigating regional development of adaptability or abilities to cope with change through path creation and relevant linkages to local-level mechanisms (2015). Correspondingly, this contribution aims to help hone the conceptual utility of resilience by considering how planning mechanisms like temporary use offers opportunities to link local practice and policy with regional strategies for economic resilience through capacity building and learning involving entrepreneurial temporary users.

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The following sections will first introduce temporary use in the context of economic and industrial change specific to the German context and then highlight how collective action relates to such planning approaches. Following this, a detailed introduction of the case study in the city of Bremen will follow, and provide the storyboard for analytical considerations on how temporary use and collective action are manifest and contribute to economic resilience. In closing, reflections on the opportunities and challenges will be summarized to more critically conceive temporary use as an adaptive planning mechanism with the potential amplify a readiness, instead of a resistance to change.

In the context of economic and political restructuring, experiments with temporary use has a rich history. Experimental land use and programming has established itself as a means to facilitate or complement urban regeneration within shorter time-frames and also as a part of longer-term transformations (Andres, 2012, pp. 759–760). Temporary use's history with regeneration also has strong roots in the German context. Since the decades following WWII, economic and political change has compelled German cities to find solutions for increasing inner city vacancy, growing number of brownfields, shrinking populations, while also compensating for decreasing public and private investment for longer term uses (Blumner, 2006; Zehner & Hoffmann, 2007). *Zwischennutzung* or more literally 'interim use' emerged as the German response for temporary activation of vacant lands or buildings which also contributes to sustainable and dynamic urban development (Blumner, 2006; BMVBS & BBR, 2008). According to scholars such as Colomb, this notion of temporary use physically manifested through slow, uneven growth and rebranding strategies that shadowed socio-political and socio-economic restructuring most impressively in eastern Germany (2012a) which suffered from political and economic crises (Overmeyer, 2003; Hollander *et al.*, 2009; Bishop & Williams, 2012; Colomb, 2012a; Oswalt *et al.*, 2013). Its subsequent manifestations have since gained attention as a means to 'more substantial investments' and greater 'larger scale efforts' (Arieff, 2011; Colomb, 2012a; Lydon *et al.*, 2012; Ferreri, 2015) to intervene for urban renewal while also building social agency and socio-economic capacity (Webb, 2018). Many examples of temporary urban interventions in the German context were found to be effective means to 'hold' or stabilize and property values' (Hollander *et al.*, 2009), and were even promoted and shared through design, finance, and policy templates (Blumner, 2006; Hollander *et al.*, 2009; Colomb, 2012a).

The measure's effectiveness and relevance in other parts of Germany, however, is often neglected (Altrock & Huning, 2015, pp. 151–152). A well-recognized example is supported through the post-industrial legacy established in the Ruhr region (Dettmar, 2005, pp. 264–266). Differences in geographical framing aside, temporary use advances an interesting angle to managing physical and social adaptation. While the nature of the practice is embedded in planning practice, it reflects characteristics of adaptive management such as 'learn-by-doing' and 'experimental probes' that may contribute to adaptation (Ahern, 2011, p. 341). This also mirrors philosophies that emphasize new learning in the face of failure which engaged early resilience scholarship from ecosystem and resource management (Bruckmeier, 2016, p. 235) in the 1970s (Bodin *et al.*, 2011, p. 10).

Indeed, this form of management is highly relevant in planning studies when one considers the demands from crises and uncertainty which require innovative policy and governance design (Voß & Bornemann, 2011, p. 2) and a readiness through resilience-oriented planning and design strategies characterized by multifunctionality, (bio)diversity, multiscalar networks, redundancy and modularization, and adaptive capacity (Ahern, 2010, p. 145). Looking to temporary use practices, it is not experimentation alone that may contribute to resilience and adaptation. Indeed, experimentation coupled with indicators of social learning (Cretney, 2014, pp. 630–631) and collective action (Taşan-kok *et al.*, 2012, p. 43) have been highlighted as

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qualities to build or strengthen in order for communities to build the capacity to adapt. Interestingly, the focus on such qualities is sparse and has only recently been picked up in a comparative context of post-disaster recovery (Wesener, 2015). This contribution will address strengthen this gap in research and its linkage to existing scholarship examining social processes (Hou, 2010; Altrock & Huning, 2015; Tornaghi & Knierbein, 2015) that afford the recognition of paradigmatic shifts in planning which no longer strictly dichotomizes the formal and informal (Matthiesen *et al.*, 2014, p. 88).

Through a resilience perspective, the dimensions of experimentation and social learning for adaptivity capacity building are not only present in temporary uses, but they are also socially-sensible indicators for resilience (Carpenter *et al.*, 2002; Bodin & Prell, 2011). The exploration of their presence as impacts and qualities is also a way to address epistemological challenges that have been identified in translating resilience, as an ecological construct, into the social realm. This is because of the affordances they provide in considering of dimensions such as agency, power, and equity (Biermann *et al.*, 2015, pp. 1–2). To constructively hone the utility of resilience within the social realm, this contribution engages such socially analytical qualities. Lastly, this contribution acknowledges that such social considerations should consider politics since an apolitical treatment of resilience concepts threatens to undermine its utility (Swanstrom, 2008; Cretney, 2014; Biermann *et al.*, 2015, p. 3; Pizzo, 2015). However, thorough discussion on this last matter, will not be included as it is out of the scope of this contribution.

Incremental Instead of Industrial: Temporary Use and Collective Action

As elucidated earlier, the constraints following structural and economic crises give rise to urban voids in which opportunities for local and incremental action can root. In many examples of temporary incrementalism supported by multi-level governmental programs and schemes¹, the practices also become participatory processes that synthesize social and economic strategies for renewal which often include or support small and medium enterprises or alternative and cultural initiatives. Empty spaces and buildings through temporary use evolve into spatial canvases for urban development. Brush stroke experiments and inspiration are primed and brought to life to infuse collaborative relationships between many diverse actors. In these circumstances, the actors or temporary users may push beyond experimental engagement and also become active curators or agents with the creative capacity to orchestrate adaptive reuse of abandoned buildings. This is most often only possible with public administrative guidance and support to help implement their ideas and produce new modes and complex systems of governance (Blumner, 2006; Colomb, 2012b; Willinger, 2014, pp. 148–149; Altrock & Huning, 2015) which are also relational means of community empowerment and activation (Wohl, 2017, p. 3). The temporary practices from individual entrepreneurs are then pointillist in nature compared to grand strategies for economic development. What the practices and users also represent is opportunism through individual and collective action (Ernstson, 2011, pp. 276–277) for new ideas within alternative spaces and in effect, seek operational feasibility, creative development, in addition to sustainability for income generating (Malki, 2009, p. 72). The aim for economic advantage, however, does not lie with the user alone, but can also extend to properties and sites after the uses have improved their value and rendered them attractive again for future investment of development (Blumner, 2006, p. 9). Contrasting the rewards, however, are vulnerabilities to mind. From a public administration's position, risks are entangled in the process of participation and engagement

¹ Public funding is channelled through programs such as *Stadtumbau Ost* (Rebuilding the East), *Stadtumbau West* (Rebuilding the West), *Soziale Stadt* (Social City) or the IBA - *International Bauausstellung* (International Building Exhibition) [Click here to enter text.](#)

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which often relies on external funding from regional and federal governments as opposed to the inherent and existing budgets (Blumner, 2006, pp. 4–5). Risk can also be perceived from the users' standpoint as they have no guarantee of continued access to spaces despite the value of time and effort and other resources they contribute to the improved valorization of both properties and places (Blumner, 2006, pp. 4–5). Future conflicts are often contingent on many uncertainties including the ambiguous state of access and exclusive understanding of ownership in most temporary use contexts. In short, while temporary use offers some measures towards a collective and contextualized means of economic resilience, it can also lead to its own path-dependence when new learning and experiments are not successful or exploitable and may further seed unnecessary future tensions.

On its own, temporary use as a planning instrument is ambivalent and a means to achieving urban regeneration goals. Along with planning processes as well as legislation, its successful implementation can pave steps towards economic rewards in the form of increased value or investment potential. But the less tangible and perhaps more valuable contribution it offers is a social capacity for economic development through additional entrepreneurial dimensions. When temporary uses bring together collective actions that share social interest, then the intentions of 'planned actions aimed at widening and opening specific decision-making processes towards experimental models of democracy' surface as forms of both effective and autonomous governance (Liddo & Concilio, 2017, pp. 848–849). Collective agency, in this light, has the potential to aggregate and contribute to a greater capacity for institutional change in which networks of individuals participate in exchange and collaborations. This is relevant to temporary use initiatives which facilitate and coordinate such collective agency, through experimentation to negotiate common visions while also building change agency overtime (Ernstson, 2011, pp. 255-256).

While Ernstson's description of collective action refers to resilience in the context of resource management, his approach to this type of group theory is also suitable for the analytical framing of temporary use. Despite the fact that this interpretation of collective action draws meaning from co-management in explicit natural resource contexts (Berkes, 2009, p. 1692), its social implications for contexts that are too complex to be adaptively managed by singular agencies are still appropriate for land use management in Bremen. The indirect management of land use through temporary use in Bremen is implemented with sustainable aims to create 'second hand spaces' through collective action to not only manage urban space and functions, but also to adapt attitudes about the practice through experimentation and learning (Kil, 2014, p. 125). The ensuing sections introduce the industrial and economic context of Bremen and describe the development of temporary use through the *ZwischenZeitZentral* Bremen (In-Between Time Central Bremen, ZZZ). The specific case study of *Plantage 9* will illustrate the process of collective experimentation and learning which continues to fuel entrepreneurial agency in Bremen and draws from materials including document analysis, interviews from field work between 2015 and 2016, in addition to recent interviews for graduate field work in 2018 and 2019.

Introducing Economic Transitions in the Bremen Context

As a mid-sized, harbour town, Bremen's urban and economic development exemplifies aims to break away from path-dependency and towards innovation through higher and local-level strategies (Plöger & Kohlaas-Weber, 2013). The city's development historically depended on trade and port activities which date as far back as the 13th century, when it was an intermittent member of the Hanseatic League (Plöger, 2008a, p. 5). This remained true even as Bremen developed into a key industrial city in the early 20th century (Plöger, 2008a, p. 4; Hasemann et al., 2017). From the late 1880s until the early 20th century, the city profited from shipping

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and emigration activity which passed through harbours located in Bremen and the neighbouring area of Bremerhaven until industrial activities shifted to shipbuilding and arms manufacturing. This lasted until the Second World War, after which American occupation helped Bremen secure its administrative city-state status. Economic development through harbour and industrial activities at this time continued while new sectors targeting machine and engineering industries, and food processing emerged. This changed, however, with the onset of the Oil Crisis in 1973. Despite maintaining a strong economy at first, Bremen's economic prosperity was eventually undermined by the transition from Fordist to Post-Fordist manufacturing which manifested in the 1980s (Plöger, 2008b; Hasemann & Schnier, 2014; URBACT, 2015). Key traditional sources of employment such as shipbuilding companies closed, and were only slightly compensated for by a few new companies in alternative industries such as auto manufacturing (Plöger, 2008a, pp. 14–20); the region suffered subsequently as unemployment climbed and the population declined (see figure 1).

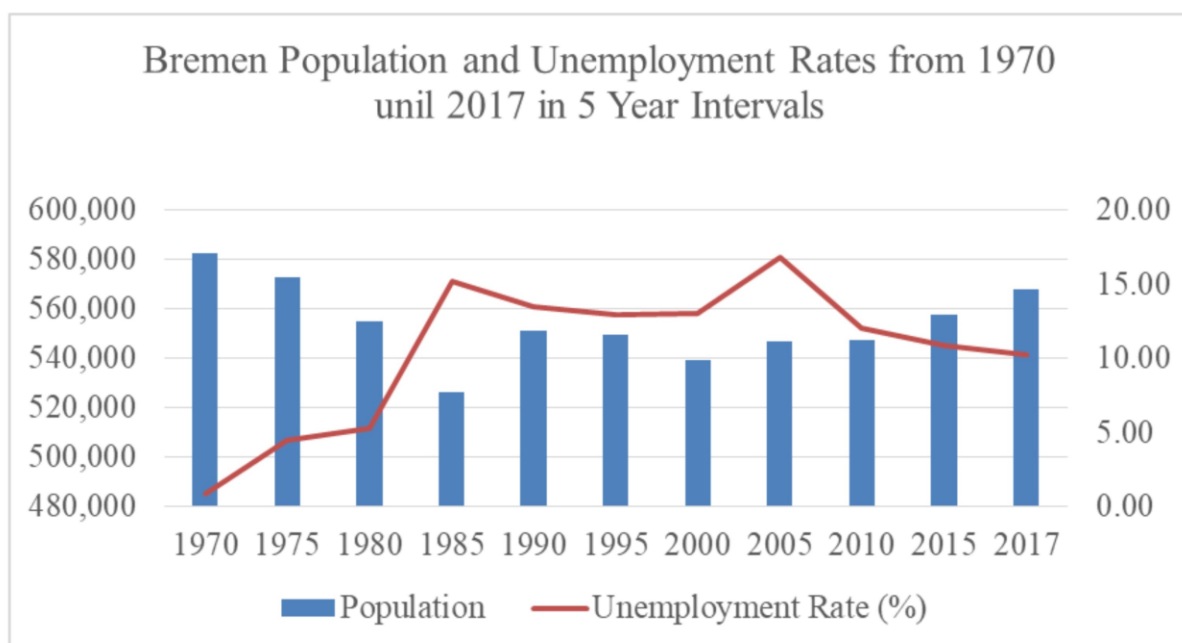


Figure 1. Population and unemployment statistics from the Federal Office of Labour.
Source: Das Statistik-Portal (2019).

Clearly, the traditional economic bases were no longer reliable and a struggle to economically adapt ensued. The challenges for the city and region were further exacerbated by suburbanization and federal tax reform in 1969 which reduced municipal budgets since taxes were no longer collected based on people's municipality of work, and instead based on their residential locations (Plöger, 2008a). Not only did municipal budgetary pressures increase, but so did the number of brownfields and vacancies. In response to the economic decline and urban dereliction, regional and metropolitan economic and innovation programs as well as municipal and neighbourhood level regeneration projects were initiated (Plöger, 2008a; ZZZ - ZwischenZeitZentrale Bremen, 2012; Hasemann *et al.*, 2017) to support and improve regional economic resilience (Plöger, 2008a, 2008b; Power *et al.*, 2010). At the same time, local and site-specific instruments such as temporary use were formally integrated in 2007 when the municipality launched its first temporary use agency and experiment through LANDLOTSSEN (Hasemann *et al.*, 2017). Upon this pilot project's success in the *Überseestadt* (Overseas City District), the Bremen public administration applied for funding through the Federal Ministry of

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Transport, Building and Urban Development and the Federal Institute for Research on Building, Urban Affairs, and Spatial Development and relaunched the temporary use platform through the ZZZ with funding from the *Nationale Stadtentwicklungspolitik* (National City Development Policy) and the Social City programs (Elisei, 2014; URBACT, 2015; Hasemann *et al.*, 2017; Lecke-Lopatta, 2018).

With supplementary support from the city-state government departments such as the Senate for Building, Environment, and Traffic, the Senate for Financial Affairs, the Senate for Economic Affairs, Labour and Ports, and federal- and municipal- level governments, the pilot agency was handed over to Oliver Hasemann and Daniel Schnier from the *Autonome Architektur Atelier* (Autonomous Architectural Atelier, AAA) who previously provided consulting for urban projects and were active temporary users of vacant spaces in 2009 (URBACT, 2015; Hasemann *et al.*, 2017). Due to AAA's direct experience with temporary use and their local involvement with supporting start-ups, the duo secured the tender to manage and expand Bremen's temporary use policy to municipal, instead of district boundaries. Following the preceding planning office of *BPW Baumgart+partner*, who managed LANDLOTSEN, AAA evolved into on-site temporary users for their future projects with responsibilities to manage the ZZZ. In parallel, they liaised officially through ZZZ with the private and public property owners including the publicly owned company *Immobilien Bremen* (Real Estate Bremen, IB), as well as the local economic development agency *Wirtschaftsförderung Bremen* (Economic Development Bremen, WfB) to support negotiation and implementation processes for temporary use (Take & Tendahl, 2019).

In addition to this constellation of public stakeholders, temporary users in the form of small-medium businesses would also be engaged as a new means of invigorating the economy through the cross-sectoral and 'soft urban policy' which the ZZZ represented to build project-based synergies and encourage meaningful urban transformation in the form of bottom-up collaborations through alternative socio-economic and cultural behaviours (Elisei, 2014; Hasemann & Schnier, 2015b; Lecke-Lopatta, 2018). This would also support local trajectories which helped transition from 'old economy' industries dependent on shipyards and maritime industries, to 'new economy' activities dependent on tourism funding and entrepreneurial experiments including the collective at *Plantage 9* (Hasemann & Schnier, 2014; Pala, 2019).

A Case Study of Experimentation and Social Learning: Collection Action through Temporary Use at *Plantage 9*

Plantage 9 began as *Bricolage Plantage* early in 2009 and was an initial and still sustaining outcome of AAA's central orchestration and steering of temporary use activities through the ZZZ. Beyond simply filling vacant spaces, ZZZ experimented with temporary users and uses by recruiting, curating and matching diverse mixes of users to available and appropriate sites. Earlier plans for *Plantage 9* reflected in zoning and land use plans indicated that the building would be demolished so that a connecting road could be built. Eventually, this was prevented when the technical challenges in realizing the road construction emerged; the municipality was at a loss as to how it could find another use for the site (Hasemann & Schnier, 2015b; Scholz & Mollenhauer, 2018). After the ZZZ approached and convinced the municipality to allow temporary users to access the site, a personable process and programme was accepted by all public administration stakeholders to help revitalize the site and also contribute to the urban district of Bremen West which had been hit hard by unemployment and social integration challenges (Hasemann & Schnier, 2015b; Pala, 2019). According to ZZZ and confirmed by temporary users, *Plantage 9* became the working home for 30 multifaceted users including artists, photographers, culinary entrepreneurs, university graduates and teachers. This diverse group made use of the building's combination of rooms and spaces as offices,

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warehouses, workshops, social space and canteen facilities that responded to the needs of the diverse group of users (Hasemann *et al.*, 2017; 2018, p. 8).

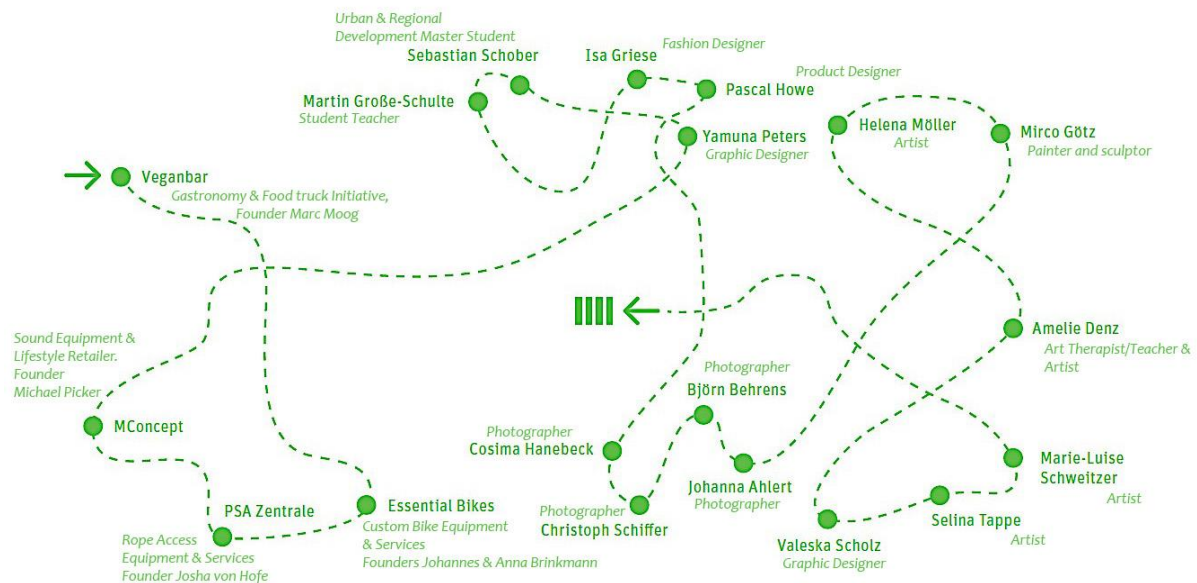


Figure 2. Adapted map of *Plantage 9* actors (1st floor only) during the early stages of the collective action. Source: *Plantage 9* (2011, p. 3).

ZZZ coached the temporary use initiative by first supporting the users through a process of individual learning during which the entrepreneurs experimented with their businesses while learning about the procedural obligations of remodelling and adaptively reusing the abandoned store house. The remodelling was necessary for the building of roughly 1,600 m² which was built in the 1950s for textile production before housing a fire protection company and eventually becoming the municipality's property (ZZZ - ZwischenZeitZentrale Bremen, 2012; Scholz, & Mollenhauer, 2018). The costs incurred through this process totalled roughly 10,000€, and was accompanied by an even more extensive process of mutual learning and communicating while the temporary use agency was responsible for the management of *Plantage 9*. This initial phase to set up the temporary use collective constituted a trial period of one year, during which the public administration agreed to a symbolic rent of 1€ per m² for the sub-renters and temporary users so that they had affordable access to working space (Hasemann & Schnier, 2015b; Scholz & Mollenhauer, 2018).

As this trial period concluded, the ZZZ informed the users they would release themselves of management obligations and assisted the *Plantage 9* collective to determine their own model for managing of the site by providing support resources and training for the temporary users' informal board. In parallel, ZZZ themselves learned to guide the users through monthly meetings which helped the collective develop and regulate their own communication but also develop their own 'community' (Hasemann & Schnier, 2015b; Scholz & Mollenhauer, 2018). For Valesca Scholz, the spatiality, community and affordable rent solidified the users' commitment to the collective:

...in actuality, it was primarily because of the cheap rents and secondarily because of the community or also the diversity [that attracted us here] – that we are not only artists or graphic designers, but a colourful mix of offices, ateliers and workshops that I

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founded so great. So it is also the different spaces which facilitates the different uses (Scholz & Mollenhauer, 2018, p. 7).

At the collective level, the temporary users learned together and from one another how to make decisions and to manage group interests. For instance, all individual users are allowed veto rights and collaborative and creative solutions to resolving conflicts with uncontrollable utility costs (Scholz & Mollenhauer, 2018). A specific example, according to Olaf Mollenhauer was the collective decision to install counters on all the heaters so that it was possible to determine a fairer distribution of costs:

So the problem that we had here I think were that of utility costs since the building is not very energy efficient and that we did not have a clear means of addressing cost allocation. So a couple of years ago, we installed counters on all the heaters. That meant that we could at least split the costs finally according to individual usage. This was, in hindsight, challenging because the bigger studios with higher ceilings and poor insulation were set up in such a way that their users suffered from exploding utility costs. However, with this new system in place, it meant that we could not only see the actual proportion of usages and costs, but that we could calculate retroactively the costs for up to two or three years back. We are currently considering if it might be worth it, to introduce a means of splitting costs in such a way to support some of the other users (Scholz & Mollenhauer, 2018, pp. 11–12).



Figure 3. Frontal view of *Plantage 9* façade located in a semi-industrial district of Bremen West.
Source: Robin Chang (2015).

AAA's own experience as temporary users and the nature of their more relational, instead of bureaucratic management approach created a strong foundation from which the new collective of temporary users could assemble and develop their heterogeneous spatiality of *Plantage 9*. It also facilitated a much more personable experience of learning about the legislative procedures and planning processes necessary to co-managing the leasing, negotiating of

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incremental increases in rent and also improving the structural compliance of the building in comparison to conventional processes (Hasemann & Schnier, 2015a; Hasemann & Schnier, 2015b; Scholz & Mollenhauer, 2018). Not only did the temporary use agents and the platform accompany a core group of temporary users who emerged as the formal board of *Plantage 9*, they sourced funding for the initiative through the municipal programs such as *Wohnen in Nachbarschaft* (Living in Neighbourhoods) which channelled federal and regional funding from the Social City and Rebuild the West programmes to complement the urban regeneration and social integration events and programming. This was a benefit for the collective and the greater area of Bremen West (Plöger, 2008a, pp. 20–23; Pala, 2019).



Figure 4. Inner city vacancy during the winter of 2015 and 2016 in area of Bremen West surrounding *Plantage 9*. Source: Robin Chang (2015).

The transition of the lease and management of *Plantage 9* to the collective in 2010 happened after the collective established their own tenants' association. The final model they selected for their collective institution eased and legitimized the group's co-management of the space, and also provided a legal entity through which they could address financial and liability concerns (Scholz & Mollenhauer, 2018). In addition to the formalization of the collective, the rental title was also transferred from the ZZZ to the tenants' association and the lease agreement was adapted so that they had the right to access and use the site for an unlimited period of time provided that they agreed to the condition to move out should the property owner give them four months' notice. Most notable, however, was the official agreement by all relevant parties to stretching the tiered rent increases of 30% from over three years to over ten years to adjust to the entrepreneurial development and growth of the now permanent users (Scholz & Mollenhauer, 2018).

The success of *Plantage 9* is not only a contentful pairing of vacant building and temporary users, but the result of ZZZ as an effective planning mechanism during a pivotal phase of experimentation and learning involving all manner of stakeholders possible (Hasemann & Schnier, 2015b). This is confirmed by the users who underline experimentation and social learning as integral steps in shaping their individual and collective abilities for facilities and

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association management, negotiation, and engagement while pursuing their own entrepreneurial aspirations. Valesca Scholz illustrates this through the development of her own engagement with the board of temporary users:

‘So we did learn a lot. For instance, when the board of the users was already established, I transitioned into the collective management because of my involvement through the organization of the open-day event...As I fell into the role as a board member, I had no experience how to lead a group or group discussions or assemblies. This led to the reality that the earlier assemblies lasted three or four hours during which everyone shared and discussed everything. And this was also a development for us and other board members, I think – that we had to learn to lead collective discussions and better get to the point...’ (Scholz & Mollenhauer, 2018, pp. 15–16)

A further demonstration of this committed success, was the ability of *Plantage 9* to survive independently after the ZZZ moved out of the space. This signified the independence and strength of *Plantage 9*, since by losing ZZZ, they lost one temporary user as well as their early temporary use manager who in 2013 moved onto another site – The WURST CASE, which is still the agency’s current project (The REFILL Network, 2018). At the closing conference in March 2018 for the REFILL network which showcased ZZZ as a best practice to other European cities and initiatives, both public administrative representatives along with temporary use managers admitted that the continuation of the model was not without tension, as the justification for continued funding was still politically sensitive (Hasemann & Schnier, 2018). But they did agree that the active and political support they received from local and regional public administration was remarkable for Bremen and contributed to the stabilization of temporary use in the city (The REFILL Network, 2018). An ultimate confirmation of effectiveness, however, comes from the users themselves who expressed no fear of eviction from the site, respect and legitimacy in relation to the public and public administration and also confidence with their ability to continue with their businesses and means of sustaining their livelihoods at *Plantage 9* (Scholz & Mollenhauer, 2018).

This commitment to alternative planning mechanisms such as ZZZ and temporary use is a compelling example of experimentation through which temporary users learn from, and amongst each other to adapt not only uses but their own social functioning as a group. The willingness from the public administration to experiment allowed for the symbolic and affordable rents which supported the entrepreneurial initiatives. It is important to note that this experimentation did not come without political tensions and was not originally a political priority. Truly, examples of temporary uses are often embedded in greater waves of urban development wherein both disadvantages and even advantages are valid for a limited window of time and dependent on the political ebbs and flows of the moment (Madanipour, 2018).

Nevertheless, the opportunities afforded through the final commitment to experimentation facilitated a high degree of learning that benefitted the temporary users, improved the service delivery of the temporary use agency and also proved to the public administration that temporary use could contribute not only to urban renewal, but also micro-level economic development. This learning was socialized through group discussions, regular assemblies and collective decision making. It is also a collective commitment and a site-specific process through which a collection of individual users pooled and transformed their priorities from entrepreneurial individuality to community organized action. That this collective initiative still sustains itself institutionally and financially for its individual users, is a reflection of its actual and transformative strength. The latter is structured through the mobilization of actors who interactively organize and eventually self-identity within the boundaries of the temporary use site and entity of *Plantage 9*. While there is definitely a need to more precisely and empirically

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assess the collective action enacted through this case study, it is possible already to descriptively note a coalescence of agency. The politically enabled implementation of temporary use set terms of access which shaped the process of experimentation and social learning in the area of Bremen West. Aside from the beneficial instrumentation of temporary use, a critical point to note is that its reality was contingent on unexpected technical challenges that hindered the demolition of the vacant building. Thus, while the case study is a positive example of collective action through which the capacity to adapt is learned and built up by all engaged stakeholders, it is undoubtedly an exception to more common political trajectories that consider planning practices and economic development. Further, while a great extent of adaptive resilience was demonstrated by the stakeholders involved with the temporary use initiative, this quality of resilience was not constant through all dimensions, such as the building structure and environment.

The struggles that the users encountered through their experiments introduce more modularity and precision into how utilities were accounted for and managed presented a resilience paradox. While the function of the space and the building envelope might have contained and afforded experimentation and adaptation, the contrary was experienced with material and hardware details that reflected static designs. The members of *Plantage 9* exemplary demonstrations of social learning and adaptive management, were undermined by more durable legacies of outdated paradigms that often still stand and hinder the uptake of more adaptive and experimental uses of land and space. Indeed, unless adaptive capacity is also embodied in design of sites and structures which eventually may host comparatively flexible social processes and initiatives such as temporary uses, then a completely and purely resilient example of policy and practice is not possible. In reality, these blind spots will impose demands on stakeholders to compromise or resort to improvised design solutions which may serve stakeholders for a certain period of time, but are ironically neither truly sustainable nor fully resilient. It is advisable to consider examples such as *Plantage 9*, but alongside the wisdom from scholars such as Ahern (2011) and Lokmann (2017) who forward criteria such as multifunctionality, modularity, flexibility and scale that can strengthen adaptive planning and design and ultimately facilitate more comprehensively resilient solutions.

Transformative and Collective Connections between Resilience in Urban Planning and Economic Development

According to resilience scholars such as Ahern (2010, 2011, p. 342) and Davoudi (2012, p. 302), the paradigmatic inspirations from resilience for urban planning, governance and design supports a readiness for the unknown as an opportunity to explore low-impact and 'safe-to-fail' transformation. In relating this to *Plantage 9*, it is easy to identify characteristics that confront uncertainty and transformation through experimentation. Indeed, the readiness of the Bremen public administration to experiment through temporary use expressed both an explorative and 'safe-to-fail' approach to planning. A counterpoint to ponder, however, is that this path was not a choice, but the political option as there were no other alternatives but to adapt. Technical barriers hindered original land use plan developments; economic and budget constraints limited municipal investment available for the local development. But the decision to commit and pursue the temporary use experiment was enough initial investment into the collective structure of ZZZ and *Plantage* to manifest in abilities that evolved into directed and continuous action (Ernstson, 2011, pp. 276–277). Moreover, the connecting and embedding of individual agencies through the temporary use format involving social learning and experimentation was an even more efficient investment (Ernstson, 2011, p. 277) from a planning and economic development standpoint as it provided temporary users with the experience, knowledge and capacity to continue manifesting their individual and collective agency even after the policy experiment of temporary use ended. While temporary use as

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planning policy and practice clearly expresses itself as a mechanism for this social and relational change, there are challenges with a transformative collective action framework as it lacks a precise measure for effectiveness. Notwithstanding, this research does address gaps in research on collective action by highlighting policy rules to improve how public administrations can contribute to action in relation to incremental urban and economic development (van Karnenbeek & Janssen-Jansen, 2018, p. 403).

Plantage 9 offers an uncommon but encouraging narrative that emphasizes intrinsic capacities at the city-scale as opposed to relational capacities that depend on other networks beyond Bremen itself. This exemplifies what Ernstson and other colleagues differentiate as a resilience 'in' versus a resilience 'of' cities (Ernstson et al., 2010, p. 533). It is uncommonly optimistic and an option in an extremely progressive 'legacy of temporary uses and the footprint of differential spaces' (Andres, 2012, p. 771) through which temporary users often are not protected from risks and liabilities. The compelling takeaway, however is the economically opportunistic and socially profitable use of existing policies such as the National City Development and Social City programs in combination with local and entrepreneurial agency to manifest an inherent resilience of the city, in which risk and learning is shared. However, even such encouraging examples of resilience will be constrained unless resilience qualities are integrated into material as well as socio-economic planning and design. In such a fashion, future initiatives can contribute to resilience which is re-invested into the local economic development through the embedded and unfettered collective agency and action which has had the time to incubate and evolve its own adaptive and durable capacity.

Re-examining Post-Industrialization through Resilience

This micro-level explanation is important to consider in relation to resilience and transformation because it exemplifies the building of new and interconnected knowledge, the creation of networks linking different groups across societal levels, as well as effective opportunity-taking through planning policy and practice. This finer grained approach to analysing resilience in the context of economic development is not without need for improvement, because it is qualitatively exhausting and at best an approximate way to indicate resilience. Steps forward to measuring and monitoring the experimentation and social learning which help to confront resistant 'institutions, modes of thought, and ways of doing things' through social network analysis methods as applied by Ernstson in his ecosystem-based management context (2011, 255–256) could help improve the methodology. Nevertheless, this contribution complements existing efforts to demonstrate Bremen's evolutionary example as a 'Phoenix City' or a post-industrial city that has constructively confronted instability inherent to the industrial structures that once supported its Fordist growth (Plöger, 2008a, 2008b; Plöger & Kohlaas-Weber, 2013; Hall, 2014, pp. 415–416) through a social and adaptive resilience framing (Davoudi, 2012) which recognizes unpredictable, non-equilibrist dynamism and complexity (Martin, 2011, pp. 4–5). Its focus on economic transitions has aimed to show that it is possible for public administrations to recognize that despite cities' and regions' economic vulnerabilities, urban planning policy and practices can support the shift in economic and urban development strategies from an 'old economy' to a 'new economy'. Such a decision is complementary to generic economic programs but re-invest in site- and practice-specific experiments which not only help retain local entrepreneurs, but instil socialized learning and adaptive capacities to diversify local economies and to provide entrepreneurial independence for individuals and collectives.

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Closing Reflections

This contribution has attempted to improve and forward an analytical understanding of how collective action involved in entrepreneurially-driven temporary use contributes to resilience in an economic context. By framing the context and case study through an evolutionary approach to resilience, the qualities afforded through experimental and social insights indicate how adaptive capacity is learned and aggregated through urban planning practices and processes such as temporary use. This is valuable when considering economic uncertainty and crises and trajectories towards economic path-divergence that is dependent on adaptive capacity inherent to smaller unit organizations within regional and urban systems (Boschma 2015). By starting at the local level, it is possible to relate transformative collective action (Ernstson, 2011, pp. 255-256) to how economic vulnerabilities can be addressed through policy and planning investments in social-relational processes. The work to be done in this area, is however, far from complete since the line of reasoning presented here requires further steps to improve its utility in evaluating and connecting transformation and capacity between community and regional scales. The pursuit of this reasoning is valuable and should continue if we are to achieve local, regional and even global economic priorities for 'sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all' (UN-Habitat, 2017, p. 20) and confront organizational vulnerabilities that detract for economic resilience (UN-Habitat, 2017, p. 31).

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How to Plan for Transformative Change in light of New Mobility Technologies? A Discussion on Reflexivity as a Planning Principle and the Format of Real-world Laboratories

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The fundamental uncertainty that accompanies innovation and transformation processes has influenced a growing body of literature on adaptive, explorative and reflexive planning. Such notions take stock of the complex interdependence in technological, social and spatial development. The article explores notions of reflexivity in urban planning and expands three dimensions with respect to the ongoing mobility transition: Openness and flexibility; learning and exploration; and embedding of initiatives. In this context, the article further reviews real-world laboratories as a format to structure learning processes and transdisciplinary collaboration for alternative mobility futures. In the wake of a rapidly growing new mobility sector in cities, aspirations of problem-solving through technology prevail. Yet urban planners and policy makers are challenged to evaluate opportunities and risks in relation to existing urban development goals. Reflexive strategies encourage long-term thinking, anticipation of unintended consequences and short-term explorations. A systematic integration of reflexivity can enable urban planners to intentionally guide change processes, while also facilitating the agency of others.

Keywords: Reflexive planning, new mobility technologies, learning processes, entrepreneurial action

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Introduction

Within the emerging discourse on new mobility technologies, such as 'Mobility as a Service' (MaaS), micro-transit and self-driving cars, urban and societal implications have only recently gained attention. So far, industrial research and design strategies (R&D), legislative actions, regional economic policy, and traffic system analysis have been the primary fields of concern. However, urban planners, architects, and municipal public administrations increasingly question the impact of future mobility on the liveability of cities. The need to understand and evaluate how new mobility technologies might affect the design of public spaces and urban form, as well as changes in land use, infrastructural investments, property values or active mobility modes, is increasingly recognized (Howell *et al.*, 2019; Ionescu *et al.*, 2019, Mitteregger *et al.*, 2019). Most pertinently so, as it remains difficult to identify and prioritize most effective policy actions.

The challenge at hand lies in envisioning possibilities for urban transformation that utilize the technologies' potentials in line with existing urban development goals (Heinrichs *et al.*, 2019). Given that many cities face limits in infrastructural capacity, increasing environmental pollution, and continued urbanization, prospects of technological problem-solving within the transportation industry appear as welcome resolutions to complex urban challenges. Paradoxically, history has shown that 'improvements in efficiency spur demand' (Goulden *et al.*, 2014, p. 145). Rather than bringing about savings or environmental relief, infrastructural enhancements such as road network expansions have instead shown to reinforce resource-intensive ways of life (Sonnberger & Gross, 2018). Research on fully automated traffic systems has correspondingly concluded that an increase in convenience, affordability, and value of time could cause the number of trips and levels of congestion to increase (OECD, 2015). Moreover, recent assessments of on-demand ride services, which are considered a 'bridge technology' for automation, have shown that urban congestion levels in large American cities have increased over the years since their introduction (Erhardt *et al.*, 2019; Schaller, 2017).

As new service providers and technological pilot projects gain presence in cities, it has become paramount for public administration and planning departments to engage in multi-stakeholder dialogues, develop agendas, and implement policies (Hoadley, 2018; Heinrichs *et al.*, 2019). However, it is important to note that cultural mobility practices and spatial morphology contribute to a 'remaking of the system of automobility' (Urry, 2004, p. 32), as much as vested stakeholder interests or established planning procedures and institutions (Pflieger *et al.*, 2009). The introduction of new urban mobility options thus requires planning approaches, which incentivise active mobility modes, public transit, and shared ridership of on-demand services, while mitigating negative effects such as economic displacement and urban sprawl. After all, mobility equity and sustainability issues are unlikely to be improved by new technologies on their own. Instead, the increase in comfort of automated transportation is expected to cause a decline in active mobility modes and the viability of public transit (Stead, 2019). Increasing economic, social and environmental costs (*ibid.*) could particularly affect those who are financially most reliant on affordable mobility access. Positive future scenarios thus require collaborative learning about opportunities and risks, as well as reflection on existing planning approaches and institutional structures that have previously caused the system of automobility to evolve. But how can urban planning contribute to systemic change and envision corresponding urbanity?

Against the backdrop of uncertainties and unforeseeable developments that commonly accompany innovation and transformation processes, the discourse on flexible and exploratory approaches has expanded within planning theory and practice (Balducci *et al.*,

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2011). In order to tackle complex urban challenges, 'evolutionary approaches' (Bertolini, 2007, p. 1999) and 'adaptive approaches' (Rauws, 2017, p. 35) recommend an incremental development and loose rules rather than detailed regulations. With regards to the ongoing mobility transition, explorative and reflexive planning practice have gained increased attention (Freudental-Pedersen & Kesselring, 2016; Hopkins & Schwanen, 2018). In this context, the present paper acknowledges the need for proactive planning action and policy implementation, but questions means of guiding transformative change.

The main question of the article thus concerns the means by which reflexivity can be systematically integrated into planning processes in order to guide a considered change in an early phase of technological transition. Building upon literature from transition studies as well as social and planning theory, I argue that reflexive planning strategies can be of threefold relevance to urban planning when preparing for urban deployment of emergent mobility concepts. It is worth examining established formats that used to structure learning processes and transformative change by harnessing the potential of stakeholder collaboration and social entrepreneurship. The aim of this article is to contribute to the discourse on urban planning strategies for new mobility technologies and means of guiding transformative change through civic engagement by providing a theoretical discussion on:

- (1) selected notions of reflexivity from governance and urban planning literature;
- (2) three dimensions of reflexive planning, which are proposed as conceptual extensions in the wake of new mobility technologies;
- (3) the concept of real-world laboratories as a format to structure learning processes and transformative change by establishing a reflexive framework and incorporating social entrepreneurship.

Theories on reflexivity: embracing ambivalence & change

'Acting in uncertainty – this is what the philosopher Ludger Heidbrink once called the new reflexivity' (Schwarz, 2014, p. 206)

The following section introduces theoretical notions on reflexivity from the literature on transition studies, social theory, and planning theory in order to then elucidate the relevance of reflexivity as a planning principle when dealing with the complex dynamic of change, in light of new mobility technologies. At the turn of the century, Voß *et al.* (2006) describe reflexive governance, as 'an emerging path of thinking and practice in societal governance and problem solving' (p. 419) called for by a growing discourse on social, environmental, and economic sustainability. The authors suggest a crucial differentiation of the concept. First, referring to the discourse on reflexive modernization as introduced by Beck (1994), reflexivity is understood as the condition of governance in the modern world, which is perpetually faced with the task of repairing unintended consequences induced by prior developments (Voß *et al.*, 2006). Modernity is confronted with its destructive, even self-destructive, potential, its risks and its limitations (Schwarz, 2002). This first notion thus implies a material rather than cognitive self-confrontation. The second reading, which Voß and Kemp (2006) introduced as 'second-order reflexivity' (p. 7), refers to specific strategies, processes, and institutions, which emerge due to the condition of self-confrontation. Actors' cognitive reflection is meant to prompt a 'corresponding adaptation of problem-handling practices' (Voß *et al.*, 2006, p. 437). Alternative strategies therefore actively explore uncertainty, ambivalences, and distributed control of problems, which become apparent in the confrontation of different rationalities (Voß & Kemp, 2006). The strategic elements Voß and Kemp (2006) propose for reflexive governance encompass (p. 17-20):

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- integrated (transdisciplinary) knowledge production,
- adaptivity of strategies and institutions,
- anticipation of the long-term systemic effects of action strategies,
- iterative participatory goal formulation,
- interactive strategy development.

In contrast to modern means of problem-solving, built upon scientific certainty and definitiveness, reflexive problem-solving remains inconclusive and temporal (Schwarz, 2014). By doing so, principles such as precaution, experimentation, tolerance of mistakes, and learning gain significance (Voß *et al.*, 2006; Schwarz, 2014). Acknowledging that there is not one, but several possible ways, with often contradicting futures, reflexive strategies are vital for interdisciplinary and transdisciplinary processes which pursue alternative trajectories (Freudental-Pedersen & Kesselring, 2016).

Lissandrello and Grin (2011) introduced one example of how reflexivity can be integrated into urban planning practice which they framed ‘as a new tool for generating critical knowledge and dialogue’ (p. 223). The multi-stakeholder ‘region dialogue’ on sustainable developments in the Port of Amsterdam served as a case study for a planning process in which various stakeholder perspectives were synthesised and past, present, and future developments were reflected. Through an open and deliberative setting, participants were encouraged to reconsider established planning practices and their institutional context. Assuming reflexivity, stakeholders’ imagination could be redirected ‘towards new visions of the future based on a redefinition of their past understanding’ (Lissandrello & Grin, 2011, p. 243). The role of planners in the process lay in facilitating stakeholder interaction, confronting differences, and redirecting imagination towards possible futures. While urban planning projects often develop reflexively, that is, through a perpetual coordination of a multitude of stakeholders and their respective forces (Jessen *et al.*, 2008), the cited example of second-order reflexivity transcends mere cognitive actualisation. Instead, it explores the capacity for change through a social learning process grounded in intentionality and consciousness (Lissandrello & Grin, 2011). The approach is valuable to further considerations on guiding urban mobility transitions, as it emphasizes the ‘transformative potential of agency’ (Lissandrello & Grin, 2011, p. 224). As illustrated above, reflexive practices bear the potential to instigate social learning through self-confrontational interaction and to trigger structural changes through an inter-subjective redefinition of social realities (Freudental-Pedersen & Kesselring, 2016; Schneidewind *et al.*, 2018).

Considering Reflexivity in Urban Planning with Emerging Mobility Technologies

To continue, I will deduce three dimensions of reflexivity from the literature on transition studies, planning, and social theory in order to elaborate their relevance for urban planning in the wake of new mobility technologies.

Openness and flexibility in the age of digital connectivity & automation

With the influx of on-demand mobility services, sensor-based connectivity, and self-driving vehicles, the rationalisation of urban flows and processes proliferates. After all, data-based mobility services, as well as artificial intelligence and predictive analytics, are built upon the conviction that ‘better’ data or ‘better’ models can substantively reduce, if not eliminate, uncertainties and risks (Hillier, 2017, p. 300). In contrast to such tendencies, Voß and Kemp (2006) elaborate that ‘the more problem-solving is disengaged from the full, messy, intermingled natural reality and oriented towards the worlds of specialists, the larger the share of interdependencies and dimensions of embeddedness ignored in the development and

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implementation of supposed solutions.’ (p. 5). Building on such notions, the discourse on complex urban systems (Portugali, 2012) emphasises the multiplicity and interdependency of urban processes underlying urban transformation. Thus, planning approaches and strategies that embrace ‘non-linear temporalities’ (Hillier, 2017, p. 308) and provide conditions for urban development to take place under varying future circumstances, are gaining relevance, (Rauws, 2017). But how can such openness be translated into urban planning approaches with new mobility technologies?

The adoption of new mobility technologies could lead to both advantageous and disadvantageous changes in urban fabric and street design. Studies suggest that high numbers of shared automated vehicles could potentially reduce the need for parking areas, enabling the reclaiming of space for public usage and active mobility modes (Zhang *et al.*, 2015; OECD, 2015). However, such effects are strongly dependent on the degree of technological adoption and public acceptance of shared ridership. A contrary effect could be that convenience and affordability influence the increase of urban trips, which could further cause congestion rates to rise and spatially separate urban streetscapes. The urban environment could thus become less accessible and permeable for pedestrians and cyclists (Stead, 2019). Ultimately, it remains unclear to what extent a safe and undisrupted operation of self-driving cars will require infrastructural adaptations such as separated lanes and whether respective investments will be publicly or privately covered.

Openness and flexibility in spatial and infrastructural terms thus imply a functional under determination instead of a tight fit, as well as an adaptive and tentative approach when adopting new mobility services. Considering the vast insecurity with regards to public acceptance and the secondary effects on urban development, maintaining an openness to ‘what might emerge’ entails the capacity for future change (Hillier, 2017, p. 310). As the landscape of new mobility technologies will continue to evolve, responsive policies will be necessary (Howell *et al.*, 2019). When planning new mobility systems, Bertolini (2017, p. 156) argues in favour of variations and selection processes throughout preliminary explorations, as well as later planning phases, in order to learn and adjust. However, any short-term experimentation is in need of a frame of reference. Hillier (2017, p. 309) thus suggests to complement overarching visions and strategic trajectories, which provide ‘justification and navigational context,’ but leave the ends of each line of knowledge open to extension with short-term, location-specific urban acts.

Learning – exploration – discourse: grounded in pluralism

The aforementioned short-term location-specific urban acts (Hillier, 2017) can constitute valuable niches that push the boundaries of what is possible (Abbott, 2005). While much of the knowledge production on new mobility is currently reserved for industry, research institutes, and selected transit agencies, further knowledge production and exchange is necessary beyond these realms. Public administration and planning departments are urged to build the competence necessary in order to harness potentials and mitigate risks of new mobility technologies. Questions regarding urban implications and social equity can be integrated into explorative testing and open discourse, but cities need to first define desired outcomes and then assess effective policies. Collaborating on short-term explorations can produce valuable knowledge about desired or undesired effects and allow evaluation of outcomes and necessary regulation (Howell *et al.*, 2019).

As Huxley (2002, p. 152) suggested, ‘planning practice has to confront the inescapable aspects of control’ inherent to liberal strategies, but also to technological solutions and optimization. Reflexive practices are therefore ‘geared towards continued learning’ rather than

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'towards complete knowledge and maximisation of control' (Voß & Kemp, 2006, p. 2007). Learning environments could provide the necessary setting for an exchange of perspectives and evaluation of appropriateness or necessary course correction. Furthermore, the involvement of diverse actors, particularly of community groups, can introduce 'new ways of seeing things' (Abbott, 2005, p. 249) into the process of developing mobility solutions.

Yet, multi-stakeholder processes are often faced with the crucial challenge of motivating collective interest and cooperation (Voß & Kemp, 2006). Smith (2006, p. 327) elaborates that 'actors come together with different motivations, perspectives and expectations; and, as a result, social learning will be plural and unlikely to be integrated automatically'. Transdisciplinary processes might thus entail cultural and epistemic confrontations or participants who are reluctant to give up established practices (Singer-Brodowski *et al.*, 2018). The diversity of worldviews may be viewed as a limitation that can erode action capacity (Voß & Kemp, 2006). Collaboration should, however, focus on engagement and negotiation rather than consensus and resolution (Hillier, 2017). A discourse in a reflexive manner, is less a consensually directed rational argumentation, but instead, a mutual adaption of actors' knowledge towards a shared view on reality, allowing for dissimilar problem definitions, goals and strategies (Voß *et al.*, 2006). Stirling (2006, p. 260) elaborates that the essence of reflexive strategies addresses 'the inherently "plural and conditional nature," both of scientific understandings and of technological potentialities'. A more sustainable technological development, thus, requires exploration and a plurality of perspectives precisely because its aim is to establish 'a broader knowledge base and more effective social learning in order to achieve "better outcomes"' (Stirling, 2006, p. 258) or better yet, alternative trajectories.

Embedding of initiatives and actualizing local change

While reflexive planning strategies can enable the adoption of various perspectives, they also aim at balancing multiple truths (Voß & Kemp, 2006). Hence, it needs to be recognized that any endeavour to locally embed technological deployment does not exclude any other modality. Nonetheless, by taking local knowledge and culture into consideration, both urban and social potentials can be mobilized to generate innovative solutions for social practices, technological adaptation and urban development. By being locally present, an understanding of social relations, processes, and resources can be gained and local ties established (Jack & Anderson, 2002). When it comes to actualizing the mobility transition, which involves 'pattern-breaking systemic changes' (Hulgård, 2010, p. 297) such as the increase in shared ridership and use of active modes, the reduction of car ownership, and the reclaiming of public space, a key question is how to involve the affected communities.

To Martin and Upham (2016), sustainable initiatives depend on more than a mere participatory potential. They argue that the continuity of any grassroots movement essentially depends on a community's values and convictions. Values, beliefs, and visions are only shared among community members, if power and resources are equally distributed (Kummitha, 2017). While participatory processes can be socially anchored through their physical manifestation (Finkenberger, 2018), lasting adoption further depends on the extent to which participatory action can be sustained beyond the duration of a project phase. Building upon the aforementioned 'transformative potential of agency' (Lissandrello & Grin, 2011, p. 224), the self-empowerment of local communities or social entrepreneurs could be key to actualizing change. 'Social entrepreneurs' are understood as actors who commit themselves to developing local communities and stakeholder networks by 'creating social value through innovation' (Hulgård, 2010, p. 297). In this case, innovation implies the development of new approaches to social challenges, which can include economic activity (Hulgård, 2010). With regards to new mobility technologies and their urban integration, social entrepreneurs and

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their areas of action can be conceived of as niches in which social practices are developed in line with local challenges and needs. As groups or individuals, they become precedents for change and increase awareness of its opportunities. Whether such initiatives are able to create social and cultural value, however, depends on their innovative nature and the level of trust they can build within the local community (Hulgård, 2010).

Real-world Laboratories as a Reflexive Framework for Transformative Change

Yet, when considering reflexivity in urban planning processes, the question remains, on which planning scale should such practices be included and further adapted to suit a particular setting (Voß *et al.*, 2006). Voß *et al.* (2006, p. 433) argue that reflexivity needs to be integrated on all levels of government and suggest a 'sequential opening and closing' of governance processes in phases of problem analysis, goal formulation, strategy implementation or actor participation. They understand *opening up* as the integration of additional factors into problem understandings, goals or strategies, as well as the extension of participation and increase of diversity (Voß *et al.*, 2006).

In the following section, I will elaborate on the concept of real-world laboratories, which has gained popularity within research on innovation and transformation processes oriented towards sustainable change. I endeavour to highlight how transformative change is structured by establishing a reflexive framework. A real-world laboratory set in the city of Stuttgart, Germany, is then described as an exemplary case due to its thematic focus on sustainable mobility transition, its methodological emphasis on transdisciplinary learning and on pioneers of change, who could be considered entrepreneurial agents within this transition process.

The format of real-world laboratories

The concept of 'real-world laboratories' (German *Reallabore*) belongs to a family of experimental and transdisciplinary research approaches, which have gained significant attention within the scientific community and public administrations in recent years (Heyen *et al.*, 2018). Considered a methodological novelty within natural sciences, real-world laboratories have been inspired by the experimental turn in social and economic sciences, as well as by collaborative participatory planning processes (Schneidewind, 2014). Within sustainability studies, it has become pertinent to understand the complexity of technological, economic, institutional, and cultural interdependencies through scientific observation and abstraction, but also to explore means of catalysing and attending transformative change (Schneidewind, 2014). Schneidewind and Singer-Brodowski (2014, p. 69) thus differentiate 'transformative science' from 'transformation science' by specifying that the former takes an active role, as scientists are intrinsically involved in the change processes they study. 'Transformative science' thereby builds upon scientific debates on transdisciplinarity as well as action research (Schneidewind, 2015, p. 88). A real-world laboratory is thus understood as a tool and an institutional framework in which knowledge is produced and change initiated by facilitating a process 'from knowledge to action' (Schäpke *et al.*, 2017, p. 9). Through co-production and continuous methodological reflection, context and actor-specific knowledge can be generated that is further differentiated into system knowledge (on what is), orientation knowledge (on what should or should not be) and transformation knowledge (on how change processes could be designed) (Schneidewind, 2014). A distinct feature are 'real-world experiments' (Wagner & Grunwald, 2015, p. 26) which are realised within an institutionalized setting in order to explore sustainable solutions to given challenges and produce action-guiding knowledge. However, the normative orientation of transformative science towards sustainability has been criticized within the scientific community. Strohschneider (2014) questioned whether it would depoliticize democratic decision-making and blur the difference

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between factual knowledge and morally justified action. Representatives of the field conversely argue that transformative science intends the approximation of science towards society through an institutional readjustment, fostering transdisciplinarity and co-production of knowledge, in order to tackle the societal challenges pertinent to reflexive modernity (Schneidewind, 2015).

Due to various research funding programs at European and national levels, similar concepts have spread internationally in the form of (urban or sustainable) 'living labs', 'urban transition labs' or (sustainable) 'niche experiments' (Schäpke *et al.*, 2017, p. 30-35). These concepts are generally understood as temporary spaces set up by scientific units in order to explore alternative practices and create new knowledge through multi-stakeholder processes (Heyen *et al.*, 2018). Their objectives, as well as temporal and structural embedding, differ and often depend on local funding policies (Scholz, 2017). Living labs were originally introduced in an effort to realize more sustainable products and services by integrating user feedback into the development of prototypes. So-called 'open innovation' (Chesbrough, 2003, p. XXIV) settings, whereby businesses profit from users' creativity and ideas, have since been called into question with regards to their claim of co-production, since civic participation is often limited to consultation and surveying (Schäpke *et al.*, 2017). Urban transition labs, meanwhile, build upon theories of 'transition management' and address greater processes of change with regards to sustainability issues or societal change beyond socio-technical innovation, often embodied by so-called 'frontrunners' (Loorbach, 2010, p. 172). Finally, niche experiments derive from the discourse on 'strategic niche management' (Schäpke *et al.*, 2017, p. 28), which argues that socio-technical innovations originate in alternative niches before evolving into the mass market and societal mainstream. Niche experiments share a wider governance approach with urban transition labs, but differ inasmuch as scientists take a consulting and observing role instead of being actively involved (Schäpke *et al.*, 2017). Real-world laboratories differ from the last two examples in that they lack a systematic embedding into a larger governance approach (*ibid.*). Stabilization within the scientific landscape and upscaling of the format, as well as its knowledge transfer, are some of the central recommendations needing further development (Parodi *et al.*, 2018).

'Real-world laboratory for sustainable mobility in Stuttgart'

The following example is the *Future City Lab – Reallabor für Nachhaltige Mobilitätskultur* (henceforth RNM), held by the Faculty for Architecture and Urban Planning at the University of Stuttgart. It is one of 14 real-world laboratories initiated in 2015 through funding by the State Ministry of Science, Research and the Arts in Baden-Württemberg, Germany (Gantert & Stokman, 2018). Being home to one of Europe's most important automotive clusters, Stuttgart has long suffered from environmental pollution and infrastructural capacity limits. While stakeholders conceded to transition towards a sustainable mobility region, development initiatives addressing technological innovations or infrastructural enhancement have lacked effectiveness (*ibid.*). Urban and regional politics are challenged to strategically negotiate diverging interests concerning current and future mobility (Gantert & Stokman, 2018). Acknowledging the complexity of the matter, the research consortium RNM set out to address 'how [Stuttgart] wants to be mobile in the future' (Alcántara *et al.*, 2018, p. 109) by tackling the previously neglected dimensions of mobility culture, habits and everyday practices (Gantert & Stokman, 2018). The goal has been to instigate debates, visions and projects on a good and sustainable mobility life by providing an institutional framework and forum for stakeholders to meet, learn, and establish alliances. The project's research funding has since been extended for a second phase to March 2020.

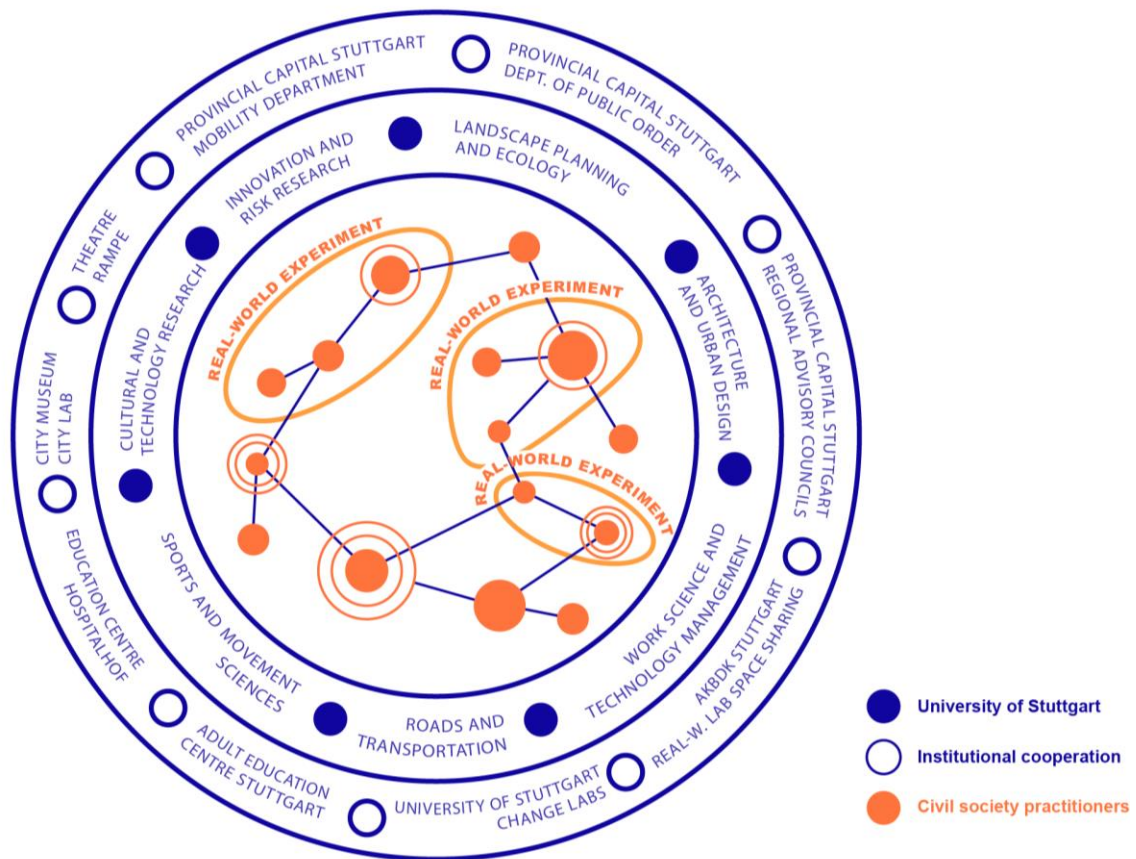


Figure 1. Research within multi-actor-constellations together with civil society practitioners based on real-world-experiments. Source: Author's translation based on *Reallabor für nachhaltige Mobilitätskultur* (2018, p. 18).

Stakeholder networks & learning environments

To address the complexity of a sustainable mobility transition, the project set out to transcend disciplinary boundaries, as well as the boundary between science and society (Alcántara *et al.*, 2018). Various institutes from the University of Stuttgart (encompassing scientists from traffic planning, technology management, architecture and urban design, sport sciences and sociology) were brought together with cultural initiatives, businesses, politics and public administration as well as with actors from civil society (Figure 1.). The three-year project period was structured in four main phases (Puttrowait *et al.*, 2018, p. 200): 1. the identification (of ideas and concepts for real-world experiments), 2. the implementation planning, 3. the implementation and, 4. the evaluation (and reflection of effectiveness). Continuous documentation and public outreach, as well as an educational program framed the project phases. An effort was made to conceptualize and explore the potential of transdisciplinary 'teaching for sustainability' (Uhl, 2018, p. 125) and utilize the framework of the RNM as a 'learning environment' (Singer-Brodowski *et al.*, 2018, p. 24). A course programme that was both interdisciplinary and bound to specific curricula enabled students at the University of Stuttgart to join the participatory process of the RNM. Students could learn from various formats and contribute by collaborating in real-world experiments or developing urban design visions (Uhl, 2018).

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Within each of the project phases, transdisciplinary workshops provided a setting for different forms of collaboration. The initial stakeholder workshop focused on developing a joint problem understanding and facilitating an exchange of perspectives regarding sustainable mobility cultures (Dietz *et al.*, 2015). Thirty representatives from public administrations and universities, nature protection and mobility associations, student initiatives and pioneers of change took part in determining project initiatives and establishing project collaborations (Dietz *et al.*, 2015). The second and third workshops served as a visioning process that encouraged an understanding of a shapeable future (Lindner *et al.*, 2017; Alcántara *et al.*, 2018). As a first step, citizens developed preferable scenarios, which were then scientifically extended, publicly shared, and discussed. The transformative outset of the RNM influenced the workshop's orientation, which was meant to stimulate a change in mindsets and provide the necessary knowledge on transformative processes (Alcántara *et al.*, 2018). Finally, an exhibition was curated in order to reflect on the results from the scenario process, the public debate, and insights from the various real-world experiments.



Figure 2. Real-world experiments realized by civic groups: parklets (left), citizen-rikshaw for elderly riders (right). Source: Reallabor für nachhaltige Mobilitätskultur (2018, p. 72; 101).

Real-world experiments & entrepreneurial change agents

Pivotal to the RNM have been so-called ‘change agents’ (WBGU, 2011, p. 256), whose initiatives for sustainable mobility practices were meant to create public awareness of existing challenges and serve as role models for a long-term societal transformation. Within the identification phase of the RNM a three-step process facilitated the formation of alliances between civil society initiatives and established actors from public administration, politics, business and science (Puttrowait *et al.*, 2018, p. 205-220): first, a stakeholder workshop; second, a ‘market of ideas’; and third, a jury meeting. Over the course of 18 months, four real-world experiments could be developed and temporarily implemented (*ibid.*). In order to empower these change agents to actualize their concepts and reach a wider audience, new structures for cooperation and participation were necessary (Gantert & Stokman, 2018). Supporting measures such as public outreach or financing were determined. The individual projects maintained an explorative character in order to adapt to unexpected challenges and emerging opportunities, thus embracing the risk of possibly failing. Key to collaboration between diverse stakeholder groups lay in the establishment of a respectful atmosphere and appreciation for diverse competencies, motivations and approaches (Puttrowait *et al.*, 2018).

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The realized projects encompassed a self-organized club of bicycle rickshaws for the elderly, parklets in public space, an urban mobility school, and a cargo bike-sharing platform (Figure 2.). The 'Parklets for Stuttgart', to illustrate one example, was a public intervention by University students, who temporarily re-appropriated on-street parking lots in order to publicly question the justice of public space distribution within the city (Puttrowait *et al.*, 2018). For three months, self-built installations such as street furniture, urban gardening lots or playgrounds were set up and provided for public use.

Debate

Finally, which insights can be deduced from the cited example of real-world laboratories when planning for the urban adoption of new mobility technologies? What role do empowerment and entrepreneurial action play in transformative change? How relevant is reflexivity in the ongoing transition period?

The premise of real-world laboratories within sustainability sciences is not merely to transcend the boundaries between science and society, thereby acknowledging practitioners as experts, but rather to initiate transformative change processes within socio-technical systems. The format can be understood as long-term 'research infrastructure' (Jahn & Keil, 2016, p. 249) or institutional framework, which facilitates the analysis and reflection of structural changes emerging over time (Schneidewind *et al.*, 2018). Beecroft *et al.* (2018) further argue that the framework supports interdisciplinary projects by providing an overarching target horizon and boundary conditions to align individual project initiatives, e.g. means of data acquisition or evaluation (p. 77). It is this structural embedding of research, learning and evaluation that characterizes the reflexive dimension of the format. While Voß and Kemp (2006) emphasized reflexivity as a concept serving to put varying local and problem-specific practices into relation, Schneidewind *et al.* (2018) build upon Giddens' (1984) understanding of duality between structure and action to propose a structural reading. To that effect, the transdisciplinary activities throughout the course of a laboratory can trigger change processes in the structural dimensions within which they are embedded (*ibid.*). The RNM in Stuttgart chose a particular approach emphasizing the role of change agents who develop 'alternative and resilient strategies for actions' and thereby pioneer a cultural shift (Schneidewind, 2018, p. 454). Whether change agents are involved in a project for its entire duration or merely during specific phases, and whether they participate as part of the research team or as external contributors greatly varies between transdisciplinary process designs (Defila & Di Giulio, 2018). Nonetheless, temporary urban interventions such as parklets can trigger the imagination regarding possible alternatives and be a first step in the service of change (Freudental-Pedersen & Kesselring, 2016). Such initiatives may also stir polarizing debates on the right to public space, which might not conjure certainty on how to solve traffic hazards in the short term, but in terms of their discursive capacity, can lead to an awareness of the urgency to act (Schwarz, 2014).

The German RNM constitutes a relevant example for establishing an institutional framework and multi-stakeholder network. By involving university and research institutes, it incorporated a variety of disciplines with valuable perspectives on the complex issue of sustainable mobility transition. Learning environments can provide the necessary setting to confront researchers and practice experts with the challenges at stake and make interdependencies of developments transparent. Previous real-world laboratories in Baden-Württemberg have shown that the integration of scientific and practice-based knowledge cultures enables the reflection of potential effects and consequences of planning actions (Schäpke *et al.*, 2017). As described by Lissandrello & Grin (2011) regarding the regional dialogue in Amsterdam, self-confrontational interaction can trigger social learning about alternative trajectories.

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With regards to new mobility technologies, the establishment of stakeholder networks and collaborative approaches between public, private, scientific and civil society actors is key to anticipating potential impacts. Particularly so, as spatial and social dimensions have been difficult to assess due to a lack of empirical case studies and necessary data. Despite prevailing uncertainties regarding urban implications, policy-makers and public administrations are required to define infrastructural standards and spatial circumstances for urban adoption. While the adaptation of regulatory frameworks is crucial for any kind of urban experimentation, it can pose a particular challenge to public administrations, not least due to the polarizing question regarding the right to public space. Nonetheless, facilitating temporally and spatially constrained interventions can generate practical knowledge of unintended consequences, possibilities for knowledge transfer and requirements for policy development (Beecroft *et al.*, 2018). It is, however, paramount to consciously assess who acquires the right to generate knowledge and therefore strategic advantages, what are the circumstances, and who bears the risks? Institutionalizing a framework for reflection can support the evaluation of societal and urban relevance of research questions and the collaborative selection of projects (Beecroft *et al.*, 2018).

This is not to say that the outlined format is without limitations or constraints. The methodological challenges of real-world laboratories in the sustainability sciences concern the format's threefold objective: 1. the scientific goal to generate new insights and knowledge, 2. the transformational goal to initiate social change processes, and 3. the educational goal to facilitate learning (Defila & Di Giulio, 2018). An equal treatment of these dimensions can cause non-scientific actions to prevail, while also demanding more specific criteria for selecting participants (*ibid.*), essentially determining the openness or exclusivity of the format (Peer, 2016). In the case of the RNM, the thematic focus on sustainable mobility cultures predefined which social groups would be considered change agents, and which were excluded or self-excluded through lack of identification. While transdisciplinary practices as part of reflexive strategies demand an immense effort from all participants, a crucial learning for urban planners could be, how to facilitate such processes with 'projectivity, creativity and change' (Lissandrello & Grin, 2011, p. 245). Initiating change through explorative actions entails an ethical responsibility for unintended consequences and challenges scientists to remain unbiased and open (Schäpke *et al.*, 2017). Hence, it is crucial for such processes to continuously reflect on the social acceptance and legitimization of process design, objectives and outcomes (*ibid.*).

Conclusion

While notions of reflexivity do exist in social science, transition studies and urban planning theory, the aim of this paper is to argue its relevance particularly in light of new mobility technologies and uncertainty about its long-term effects. Firstly, in order to embrace the complexity of interdependent social, spatial and technological processes by integrating flexibility and responsiveness into planning for new mobility. Secondly, to produce knowledge about opportunities and risks by integrating stakeholder perspectives and transdisciplinary explorations. Thirdly, to adapt new mobility technologies to local challenges, requirements and needs, by exploring novel practices within the affected communities, and facilitating social entrepreneurial action. After all, the novelty of technical innovations such as on-demand mobility services or self-driving cars does not yet say much about their contribution to the liveability of cities.

The level of integrated planning as well as urban policies and designs, which encourage or discourage specific mobility practices, will influence the extent to which the social,

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environmental and urban opportunities of new mobility technologies are actualized. Public, private, scientific and community actors thus need to negotiate what good emerging mobility technologies could do in a given context, and for whom. Raising questions concerning the outcomes of new mobility regulations and their alignment with existing urban development goals can clarify the need for planning revisions and the incremental exploration of effective policies. In this process, the transgression of disciplinary boundaries and integration of perspectives can foster collective learning and building of coalitions.

Cities and urban planners need to reflect: How can the transition period towards new mobility be structured at regional, city and neighbourhood scales? Do existing policies and planning measures achieve desirable outcomes? How can local initiatives, research endeavours and pilot projects be connected, in order to establish synergies, transfer learnings and leverage resources? With this article, I endeavoured to explore the notion of reflexivity, its previously recognized value in transition studies and planning theory, and potential relevance with regards to the transition period at hand. I suggest that urban planners engage in reflexive processes by facilitating and structuring dialogue, as part of institutional frameworks or short-term explorations. While Schwarz (2002) suggested that a notion of reflexive modernity, as a condition, is neither affirmative nor a system critique, second-order reflexive strategies as a response to unintended consequences, call existing concepts, practices and institutions fundamentally into question (Voß & Kemp, 2006). It is perhaps not yet a revolution, but a different society in a state of becoming (Beck, 1994).

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Investigating Links Among Urban Sprawl and Environmental Justice Indicators in US Territories

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Sprawl often characterizes unsustainable, car-dependent, and low-density urban development at the edges of cities. Much research has documented the relationship among sprawl and air pollutant concentrations and many studies have addressed sprawl's social implications, especially for low-income and minority groups. However, limited research has investigated the links between areas with increased levels of sprawl and air pollution, where vulnerable populations reside. This paper brings together the refined sprawl dataset from Smart Growth America and selected environmental justice indicators on air pollution-ozone and air toxics from the US Environmental Protection Agency's Environmental Justice Screening and Mapping Tool (EJSCREEN), in a national-level analysis of U.S. territories. Through Pearson correlations and a series of logistic regressions, the significant connection of sprawl and ozone concentrations is shown, in areas with more low-income, and less educated groups with higher percentages of children. On the other hand, while air toxics cancer risk is higher in areas with low-income, and linguistically isolated racial minorities, it has lower levels in more sprawled areas. Upon a closer look, it is shown that only selected dimensions of compactness link to higher cancer risk, while aspects such as a higher mix of jobs may have a reverse effect on it. These findings provide new directions in the ongoing discussion of sustainable urban development patterns and suggest that the focus should be on development that can promote better air quality, while simultaneously reducing social vulnerability to environmental challenges, with additional benefits for local innovation and community building.

Keywords: Sprawl, Environmental Justice, Air Pollution, Vulnerable Populations, Urban Form

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Introduction

Sprawl usually describes an urban development pattern that is inefficient in its use of land (Freilich *et al.*, 2010). It is generally negatively charged and commonly associated with 'low density development on the edges of cities and towns that is poorly planned, land-consumptive, automobile dependent and designed without regard to its surroundings' (Beck, Kolankiewicz and Camarota, 2003). Initially, some of the driving forces behind sprawling expansion included housing affordability, access to open space, proximity to nature and a better climate and air quality (Bruegmann, 2006; Gavrilidis *et al.*, 2019). Instead, sprawl in the US has been connected to numerous social and environmental impacts, including weakening of social capital through inner-city decline, racial segregation, lack of affordable housing, deterioration of existing built-up areas, global warming through increased traffic volume, and erosion of agricultural land and open space (Burchell *et al.*, 1998; Camagni *et al.*, 2002; Freilich *et al.*, 2010; Kahn, 2001; Wilson and Chakraborty, 2013).

This paper explores the spatial linkages between sprawl and environmental injustice indicators in the US. Specifically, it examines whether socially vulnerable groups reside in areas with poor air quality -ozone concentrations and cancer risk from air toxics- and high levels of sprawl, to characterize potential synergies of sprawl and air pollution on certain areas and populations. The following sections briefly discuss sprawl and environmental justice metrics and provide a review of past research and current knowledge gaps on the simultaneous relationship between urban development patterns, air quality and socially vulnerable populations, and implications for environmental injustice.

Sprawl Metrics and Links to Air Pollution

Several studies have documented sprawl's possible causes and consequences (see Galster *et al.*, 2001; Wei and Ewing, 2018), yet, there is widespread disagreement about what exactly constitutes sprawl and how to quantify it (Christiansen and Loftsgarden, 2011; Jaeger *et al.*, 2010). The famous expression that 'most people would be hard pressed to define urban sprawl, but they know it when they see it' (Ewing, *et.al*, 2002), vividly describes the associated uncertainty and ongoing debates about sprawl. Numerous attempts have been made to suggest a widely accepted working definition and subsequently, measures and indexes to inform practice, but there are still those who support that more research is needed, as sprawl's determinants and characteristics 'are not yet fully understood' (Torrens and Alberti, 2000).

Perhaps the most popular variables used to quantify sprawl are density of housing, population and employment, land use mix and level of dependence on automobile travel (Zhao and Kaestner, 2010), but issues with scale arise. Torrens and Alberti (2000) highlight that measurements of sprawl may look different in a neighborhood, block, city county or metropolitan area. Eid *et al.* (2007) point out to the inability of county-level measurements in capturing the 'neighborhood self-selection.' Lastly, Gordon and Richardson (1997) question whether the total area of a place should be included in the calculations versus the area upon which people would normally reside (excluding water bodies, wetlands etc.).

Among the most famous past attempts to operationalize sprawl is an index developed by USA Today (El Nasser and Overberg, 2001), related to population living in urbanized areas and change in this population between 1990 and 1999. Surprisingly, this study characterized Los Angeles – a typical sprawling example- less sprawling than New York. Similarly, the Sierra Club (1998) quantifies sprawl based on population shifts from city to suburb, land area growth vs. population growth, time spent in traffic, and loss of open space (Sierra Club, 1998).

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In 2002, Smart Growth America (SGA) and the US Environmental Protection Agency (EPA) published a study that proposed a sprawl index based on two major dimensions: development density and street accessibility for 448 metropolitan counties in the US (Ewing and Hamidi, 2014). The study findings were updated in 2014 to include 993 counties and additional built-environment dimensions: residential and employment density, neighborhood mix of homes, jobs and services, strength of activity centers and downtowns and street accessibility, which were all combined into one sprawl index (Ewing and Hamidi, 2014). The refined index incorporates a large US segment, relatively recent census data and addresses sprawl through a variety of built environment dimensions, which together cover the most popular definitions of urban sprawl.

Since its first release, this index has been used in several studies and has been linked to physical inactivity, obesity, traffic fatalities and others. A considerable amount of literature utilizes the 2002 version of the SGA index and focuses on the environmental impacts of sprawl, specifically its links to air pollution. Stone (2008) found significant associations among 45 sprawled regions in the US and high ozone exceedances. Similarly, Schweitzer and Zhou (2010) linked neighborhood-level air pollution (ozone and particulate matter) and sprawl in 80 US areas. The authors also highlighted higher exposures in neighborhoods with poor households and racial minorities. Lastly, Bereitschaft and Debbage (2013) explored 86 US areas and related sprawl-like urban morphologies with higher concentrations and emissions of air pollution and carbon dioxide.

The links between urban sprawl and air pollution have also been investigated in other countries, beyond the US. Kang et al., (2019) examined ozone pollution and urban form in Korea and found that land use mix, clustering and development concentration were significantly associated with better air quality. Somewhat contradicting findings come from Li and Zhou (2019), who did a large-scale analysis of 288 Chinese cities and linked 5 metrics of urban form with 6 air pollutants. Their results suggested that lower-sized, moderately scattered, polycentric cities may be preferred for better air quality. However, not all scattered development is considered sprawl, but only the type of 'uncoordinated growth' without concern for its consequences (Batty et al., 2003). The above indicate that while there are documented linkages between some sprawl dimensions and certain air pollutants, there is limited understanding on the connection of types of urban expansion and combined socio-environmental inequalities.

The Relationship of Sprawl and Environmental Justice

As seen previously, urban sprawl is one of the most pressing concerns facing American cities. There is a lot of debate on how to measure it and ongoing research continuously addresses its environmental consequences and attempts to find remedies that promote more sustainable and healthier urban development patterns. There is rich literature on the relationship between sprawled areas and air quality, but demographic indicators are usually absent from such studies, even though much environmental justice-oriented studies highlight the disproportionate burdens of outdoor pollutant concentrations on socially vulnerable populations. For instance, Morello-Frosch and Jesdale (2005) examined links between socioeconomic status (SES) and ambient air toxics exposures and their associated cancer risks for 309 metropolitan areas in the US and found that racial residential segregation highly affects the degree of such exposure. Likewise, Pastor et al. (2005) examined the spatial distribution of environmental risk in the state of California and their results showed a persistent disproportionate exposure of ambient air toxics by race. More recently, Tessum et al. (2019) formally quantified unequal burdens from air pollution to black and Hispanic minorities in the US, through their 'pollution inequity' metric.

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The concept of environmental justice (EJ) means both a social movement that fights for the just distribution of environmental costs and benefits, and an environmental movement that brings together theories of the environment regarding sustainability, law, policy, planning and ecology (Schlosberg, 2009). As such, it incorporates a clear spatial component where spatial forms and scales connect to socio-environmental disparities (Walker, 2009). Environmental justice critiques have often targeted traditional planning issues, among which are smart growth and sprawl (Agyeman, 2007). However, to date, limited, if none, research has examined directly the socio-environmental implications of urban form characteristics.

Revealing issues with environmental injustice heavily depends on the way EJ is measured and analyzed in a spatial context. Typically, variables combine environmental stressors with sociodemographic characteristics and there is increasing interest in developing tools that can capture cumulative socio-environmental disparities at the most local scales (Sadd et al., 2011). Ongoing work on producing EJ metrics is carried out by several U.S. governmental entities and non-profit organizations, such as the Environmental Protection Agency (EPA), the Department of Health and Human Services, the National Institute of Health, the National Library of Medicine and the Environmental Working Group, most of which are continuously developed and updated (Amiri and Zhao, 2019). A relatively simple and popular tool is EJSCREEN, a mapping and data reporting tool by EPA that links environmental and demographic indicators in the US, in the form of EJ indexes (EPA, 2016). EJSCREEN contains data on environmental stressors related to air, dust, waste and water pollution and data on demographic indicators, mainly related to income, race, education level, and age. These indicators are calculated at the block-level and can be summarized within a defined buffer area. As noted in the relevant EPA report, EJSCREEN is not suitable for characterizing a site as EJ or non EJ community, as it is difficult to capture all environmental concerns at the same time; it is rather designed for screening purposes, meaning to provide an overview and identify areas in need for additional considerations (EPA, 2016).

To date, EJSCREEN has been used in several studies, including assessing the performance of and validating newly developed EJ tools (see Driver et al., 2019; Grier, Mayor and Zeuner, 2019; Rowangould et al., 2019), linking high levels of outdoor pollution and low access to jobs (see Zhao, Gladson and Cromar, 2018), identifying the socio-environmental characteristics of renewable energy manufacturing sites (see Harris, 2018), and associating adverse pregnancy rates with air pollution in low-income and minority sites (see Cifuentes et al., 2019). Yet, there is no literature utilizing the EJSCREEN data to bridge environmental justice and built environment characteristics.

Perhaps one of the few EJ-oriented studies that links to urban development is this of Pratt et al. (2015). The authors co-examined SES status and risks from traffic density and related air pollutants in Minnesota, USA and found higher than the mean exposures for residents of lower SES status. They further identified that residents living outside the urban core had lower risks of exposure but drove more, while those closer to the urban core tended to drive less and had higher exposures. On a related note, Woo et al. (2019) showed environmental inequities for racial and ethnic minorities through exposure to 3 types of air pollution in the US and further concluded that this exposure was higher in metropolitan areas with higher levels of residential segregation. These studies indicate that there is increasing interest from EJ-oriented research to establish connections among urban form, air quality and demographic characteristics.

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Research Items

The question of the relationship between different patterns of urban form and their environmental and social costs has been increasingly investigated from urban scholars, especially as governmental commitments to urban sustainability accelerate (Camagni et al., 2002). Evident in the above is that sprawl, air pollution and social vulnerability are three phenomena with many interlinkages (Agyeman, 2007), but with multiple dimensions, which are often challenging to fully capture in single-metric and large-scale approaches. In simplified terms, sprawl translates to increased air pollution through higher traffic volumes from the dependency on cars (Burchell et al., 1998; Johnson, 2001), and, in turn, air pollution is higher in areas with residents of a lower SES status. Similarly, sprawl may promote social isolation, through racial and income segregation, e.g. through the uneven distribution of public services and transport infrastructure (Zhao, 2013), with persistent air quality problems and higher exposures in the most isolated communities. Therefore, although difficult to measure directly in physically meaningful units, it is logical to assume that there may be a simultaneous connection between sprawl, air pollution and socially vulnerable populations, in need for further investigation.

This paper contributes findings on research items that have partially been examined by some of the studies reviewed in the previous paragraphs. The central research question asks whether sprawl contributes to increased air pollution in US areas with socially vulnerable population groups. Connections among some sprawl dimensions and selected air pollutant indicators, such as ozone, have been covered previously, as well as connections among other indicators, such as air toxics cancer risk, and racial and income minorities. But the risk from air toxics and sprawl has not been examined, neither is the simultaneous relationship among sprawl, air pollution-ozone and air toxics cancer risk- and locations with higher percentages of low-education, low-income, isolated, racial minorities of seniors and children, which is the focus of this work.

Methods

Research linking directly urban form and environmental injustice is still in embryonic stages. Existing studies with data-and-modeling-driven agendas mostly adopt cross-sectional approaches, where they examine sprawl and air quality, or sprawl and social discrimination. They further limit their analysis in narrow individual groups and in bounded spatial contexts. In this work, a cross-sectional, national-level analysis is carried out, based on a mixed sample of environmental and sprawl indicators, while controlling for demographic variables targeting vulnerable populations. The next sections describe this process in more detail.

Data Collection

Sprawl and environmental justice data were taken from the previously described SGA index and EJSCREEN databases respectively. More descriptions are given below.

Sprawl Data

County-level estimates of sprawl in the United States were published in 2014 from Smart Growth America and were taken from the National Cancer Institute (NIH), Center for Geographic Information Systems and Science for Cancer Control website¹. The data are

¹ Sprawl datasets and descriptions can be found at the NIH, GIS and SCC website (<https://gis.cancer.gov/tools/urban-sprawl/>).

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available for 993 US counties; each county corresponds to a row in the sprawl dataset and is assigned the state it belongs, a density factor, a mix factor, a centering factor and a street factor, as well as a composite index, as of 2010. Specifically, the density factor indicates development density, the mix factor refers to land use diversity, the centering factor represents street accessibility, and the composite index combines them all together. The four factors were produced through principal component analysis and were then summed, giving each dimension of sprawl equal weight in the composite index (Ewing and Hamidi, 2014).

Environmental Justice Data

Environmental justice data were taken from the US Environmental Protection Agency (EPA) website². They are part of the Environmental Justice Screening and Mapping Tool (EJSCREEN) and exist either in comma-separated files or in the form of geodatabases. They combine block-level environmental and demographic indicators as of 2016.

The environmental indicators are direct or proxy estimates of potential exposure to environmental pollutants and were selected based on their public health significance, relevance to environmental justice, highest resolution possible and coverage (EPA, 2016). Specifically, they include variables related to air (air toxics cancer risk, respiratory hazard index, diesel PM, particulate matter, ozone, traffic proximity and volume), dust and lead paint (lead paint indicator), and waste/water (proximity to risk management plan (RMP) sites, proximity to treatment storage and disposal facilities (TSDFs), proximity to national priorities list (NPL) sites, and proximity to major direct water dischargers).

The demographic indicators are general estimates of a community's potential susceptibility to environmental pollution. For example, individuals may be more vulnerable when they are of very young or older age, have poor health, have reduced access to care, and lack resources, language skills or education (EPA, 2016, Cohen and Martinez, 2011). They are in a household basis and include percent low-income (income less than or equal to twice the federal 'poverty level'³), percent minority (race other than white-alone⁴), percent with less than high school education for people of age 25 and older, percent linguistic isolation (people living in linguistically isolated households⁵), percent under age 5, and percent over age 64.

As noted in the associated EJSCREEN documentation, there is a trade-off between resolution and precision; the data do not necessarily provide the full picture of a location's pollution exposure but are rather suitable to identify areas for further review (EPA, 2016).

Data Analysis

The data analysis in this paper examines the relationship between selected environmental indicators and sprawl in US territories, while controlling for several demographic estimates. The central hypothesis is that areas with vulnerable population groups and higher levels of environmental pollution, may also be associated with higher levels of sprawl. The sprawl and environmental justice datasets described above, were utilized to perform a series of block-level, logistic regression analyses in Stata. The environmental variables of focus are ozone

² Environmental Justice datasets and descriptions can be found at the US EPA website (<https://www.epa.gov/ejscreen/download-ejscreen-data>).

³ More information about the Federal Poverty Level (FPL) can be found at: https://www.census.gov/topics/income-poverty/poverty/about/glossary.html#par_textimage_25.

⁴ Minority is defined based on: <https://factfinder.census.gov/help/en/race.htm>.

⁵ A household in which all members aged 14 years and over speak a non-English language and also speak English less than "very well" (have difficulty with English) is considered linguistically isolated (EPA, 2016).

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and air toxics cancer risk (air pollution related), as they are the most visible indicators in a block-level investigation and are entered as dependent variables. Then, sprawl is the policy independent variable that is represented by the composite index described previously, and combines the four factors of density, mix, centering and street. Lastly, all six demographic indicators of low income, minority, lower education, linguistic isolation, children and elderly are entered as additional control variables in the analysis.

Regression analysis is often used in studies examining the relationship between sprawl and environmental indicators, and ozone is a frequently investigated pollutant (see Bereitschaft and Debbage, 2013; Kang et al., 2019; Li and Zhou, 2019; Schweitzer and Zhou, 2010; Stone, 2008). However, this is not the case with the air toxics cancer risk. In addition, while several studies address the unequal burden of outdoor pollutant concentrations on socially vulnerable populations (see Morello-Frosch and Jesdale, 2005; Pastor *et al.*, 2005; Pratt *et al.*, 2015; Tessum *et al.*, 2019; Woo et al., 2019), related demographic indicators are not usually present in existing statistical models of sprawl and air pollution. Likewise, many researchers have linked selected sprawl dimensions with socio-demographic indicators, such as income or racial segregation (see Guo *et al.*, 2019; Nguyen, 2010), but have not included the intermediate connection between environmental and demographic variables.

After data acquisition, sprawl, environmental and demographic variables described previously were merged into one dataset in MATLAB⁶, based on each county's unique identification number (FIPS)⁷. Necessary clean-up processes took place, such as identification of extreme/wrong values, deletion of missing values, and generation of fixed effects to account for spatial autocorrelation (Berrigan *et al.*, 2014). Block information is essentially nested within counties and therefore, shares the counties' physical characteristics. Fixed effects for places take care of this spatial autocorrelation and counties were classified as northeast, northwest, south and west, where south is the base category⁸.

During the aggregation process, there was an information loss, either because the environmental justice data did not cover all areas contained in the sprawl dataset, or reversely. Therefore, the resulting dataset has information for 168,607 blocks on the variables shown in Table 1.

Both environmental indicators (ozone and ATCR) were turned into binary variables in this analysis. Specifically, existing air quality indexes often treat ozone as a categorical variable with values less than 50 parts per billion (ppb) indicating good air quality levels, and values above 50 ppb indicating avoidance of outdoor exposure, especially for vulnerable population groups such as children and seniors (EPA, 2015a). Here, the interest is limited in safe versus non-safe air quality levels. Therefore, a new ozone variable was generated, where the value of 1 was assigned to places with ozone>50 ppb, and 0 otherwise. Similarly, a new air toxics cancer risk variable was created, with values less than 45 in a million, expressing low risk, and values above this threshold indicating increased cancer risks for the study areas (1 was assigned to places with ATCR>45, and 0 otherwise). Table 2 summarizes the average, minimum and maximum values for the variables in the sample.

⁶ MATLAB is a programming platform. More information can be found at: <https://www.mathworks.com/discovery/what-is-matlab.html>.

⁷ More information about FIPS can be found at: <https://www.census.gov/geographies/reference-files/2016/demo/popest/2016-fips.html>.

⁸ Classifications of the US states are based on a suggested classification system from the US Census Bureau.

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Table 1: Variables in the Sample.

Group	Variable	Type	Description
Environmental	Ozone	Binary	Summer seasonal average of daily maximum 8-hour concentration in air, in parts per billion (ppb) (EPA, https://www.epa.gov/ejscreen/overview-environmental-indicators-ejscreen).
	Air Toxics Cancer Risk (ATCR)	Binary	Probability that individuals of a place will develop cancer from inhalation of air toxics (carcinogens in ambient outdoor air) (EPA, https://www.epa.gov/ejscreen/overview-environmental-indicators-ejscreen).
Sprawl	Composite index	Continuous	A county's sprawl/compactness score. Higher values indicate less sprawl and more compactness (if >100 indicates less sprawl) (Ewing and Hamidi, 2014).
	Density Factor	Continuous	Combines population density and urban density with built land (Ewing and Hamidi, 2014).
	Mix Factor	Continuous	Combines balance of jobs to total population and the mix of job types (Ewing and Hamidi, 2014).
	Centering Factor	Continuous	Expresses the proportion of people and businesses located near each other in different block groups (Ewing and Hamidi, 2014).
	Street Factor	Continuous	Combines the length of street block, the block size, the percent of blocks that are urban in size, the density of street intersections and the street connectivity (Ewing and Hamidi, 2014).
Demographics	Percent low income	Continuous	
	Percent minority	Continuous	
	Percent < high school	Continuous	
	Percent linguistic isolation	Continuous	
	Percent < 5	Continuous	
	Percent > 64	Continuous	

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Table 2: Summary Statistics for the Sample's Variables.

Variable	Mean	St. Deviation	Min	Max
Ozone	47.61	7.76	0	73.76
Air toxics cancer risk	42.07	12.20	0	826.31
% Low-income	0.34	0.22	0	1
% Minority	0.39	0.31	0	1
% < High-school	0.14	0.13	0	1
% Linguistic isolation	0.05	0.09	0	1
% < 5	0.06	0.04	0	1
% > 64	0.14	0.09	0	1
Composite index	125.61	40.00	45.49	425.15
Density factor	121.64	61.01	88.03	654.01
Mix factor	120.60	18.82	22.76	177.53
Centering factor	116.91	35.66	66.08	400.25
Street factor	121.92	32.99	40.96	230.33

Results

Tables 3 and 4 report correlations between the environmental indicators, the composite index and the demographic estimates. In the case of ozone, correlations are particularly weak; the strongest correlations are those of the index, percent linguistic isolation and percent minority. Based on its sign, as the composite index goes up (meaning higher density and less sprawl), it is less likely that the outdoor ozone will be high (>50 ppb), and the same counts for percent linguistic isolation and percent minority.

In the case of Air Toxics Cancer Risk (ATCR), correlations are somewhat stronger, and the signs are reverse; the highest correlations are those of percent minority, the index, percent low income and percent with less than high school diploma. Now, as the composite index, hence urban density, goes up, so does the probability of air toxics cancer risk and the same counts for all the demographic indicators, except from percent seniors.

The results of the logistic regression models are presented in Tables 5 - 10. The objective is to examine whether environmental indicators are associated with urban sprawl and related demographics. For each environmental indicator, four regression models are tested, beginning with models using only the composite index, and progressively adding demographic indicators and fixed effects for states.

Table 3: Pearson's Correlation Matrix for Ozone.

	Ozone	Index	Minority	Low Income	<High School	Linguistic Isolation	<5	>64	State
Ozone	1.00								
Index	-0.17	1.00							
Minority	-0.09	0.29	1.00						
Low Income	0.01	0.03	0.55	1.00					
<High School	-0.03	0.08	0.60	0.67	1.00				
Linguistic Isolation	-0.10	0.25	0.50	0.38	0.57	1.00			
<5	0.03	0.00	0.26	0.29	0.23	0.17	1.00		
>64	-0.03	-0.06	-0.29	-0.19	-0.15	-0.14	-0.33	1.00	
State	0.14	-0.20	0.17	0.08	0.10	0.07	0.05	-0.04	1.00

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Table 4: Pearson's Correlation Matrix for Air Toxics Cancer Risk.

	ATCR	Index	Minority	Low Income	<High School	Linguistic Isolation	<5	>64	State
ATCR	1.00								
Index	0.31	1.00							
Minority	0.32	0.29	1.00						
Low Income	0.20	0.03	0.55	1.00					
<High School	0.18	0.08	0.60	0.67	1.00				
Linguistic Isolation	0.19	0.25	0.50	0.38	0.57	1.00			
<5	0.07	0.00	0.26	0.29	0.23	0.17	1.00		
>64	-0.12	-0.06	-0.29	-0.19	-0.15	-0.14	0.33	1.00	
State	0.08	-0.20	0.17	0.08	0.10	0.07	0.05	-0.04	1.00

Table 5: Logistic Regression Results for Ozone. * Statistically Significant at the 0.05 Level.

	M1	M2	M3	M4
Index	0.988* (0.000)	0.990* (0.000)		0.988* (0.000)
Minority		0.704* (0.016)	0.515* (0.012)	0.822* (0.021)
Low Income		1.593* (0.050)	1.434* (0.047)	1.219* (0.041)
< High School		1.210* (0.073)	2.287* (0.143)	1.478* (0.094)
Linguistic Isolation		0.162* (0.012)	0.085* (0.006)	0.158* (0.013)
<5		3.954* (0.525)	4.250* (0.591)	3.031* (0.426)
>64		0.356* (0.020)	0.464* (0.027)	0.495* (0.029)
Northeast			0.411* (0.007)	0.544* (0.010)
Midwest			3.252* (0.045)	3.807* (0.055)
West			2.433* (0.033)	2.782* (0.039)
Intercept	2.972* (0.066)	2.514* (0.068)	0.558* (0.010)	1.799* (0.057)
Pseudo R^2	0.025	0.032	0.1019	0.113
LR x^2	5,659	7,271	23,220	25,752
N	168,607	168,607	168,607	168,607

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In all models of Table 5, the composite index is statistically significant at the 0.05 level. It is also negatively related to ozone as expected, therefore, as the density of a block increases, it is more likely that ozone levels among its residents will be lower. We also see that as more variables are added, the index coefficient increases slightly, probably because of omitted variables bias in the previous models.

The assessment of model fit that follows, focuses on the full logistic model 4 that includes the composite index, demographics and fixed effects. Specifically, the LR χ^2 indicates a better model fit with a value of 25,752, at 10 degrees of freedom with p-values of 0.000. Therefore, the null hypothesis can be rejected, and it can be concluded that the model is statistically significant. Lastly, the correctly and incorrectly predicted results of the model are checked through running specificity and sensitivity tests, shown in Table 6. Based on the results of the test, a 69.67% of the model is correctly specified.

Table 6: Results of Specificity and Sensitivity tests for Ozone.

Classified	True		
	D	-D	Total
+	38465	20899	59364
-	30243	79000	109243
Total	68708	99899	168607
Correctly Classified	69.67%		

Evident in Table 5 is the statistically significant effect, but relatively low magnitude, of sprawl on ozone concentrations; as sprawl increases, ozone levels increase, which indicates that more compact urban forms may be preferred over sprawled areas for improved ozone levels. The same happens with lower income areas with less educated population that have higher magnitudes, where we see hints of environmental discrimination; ozone levels go up for low income communities with less access to education. This pattern is also alarming as ozone levels appear increased in areas with higher percentages of children under 5. Lastly, possibly the most surprising findings relate to senior, minority and linguistically isolated communities, where ozone concentrations are lower.

The next table zooms into the four sprawl factors and their relationship with ozone concentrations. The first model includes the whole sample, while the next models only include subsets with vulnerable populations.

As shown in Table 7, in areas with lower street and density factors, ozone concentrations go up, while the opposite is true for mix and centering factors. The same pattern continues for subsets of the sample with vulnerable populations; if we only include those blocks with low income groups of 40% or more, and blocks with 20% or more people with less than high school education, density and street factors go up with lower ozone levels. Several other thresholds were tried in the analysis (e.g. 50%) and the directions of the coefficients remain the same, while the magnitudes get slightly higher.

In all models of Table 8, the composite index is statistically significant at the 0.05 level. The composite index is positively associated with the air toxics cancer risk, therefore, as the density of a block increases, it is more likely that the air toxic cancer levels among its residents will be higher. Same as with the case of ozone, as more variables are added, the index coefficient increases slightly, assuming omitted variables bias in the previous models.

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Table 7: Logistic Regression Results for Ozone and Sprawl. *Statistically Significant at the 0.05 Level.

	All Sample	Low Inc> 40%	<High>20%
	M1	M2	M3
Density Factor	0.982* (0.000)	0.976* (0.000)	0.976* (0.000)
Mix Factor	1.011* (0.000)	1.024* (0.000)	1.027* (0.000)
Centering Factor	1.003* (0.000)	1.006* (0.000)	1.010* (0.000)
Street Factor	0.995* (0.000)	0.990* (0.000)	0.985* (0.000)
Intercept	1.590* (0.059)	0.890* (0.056)	0.699* (0.054)
Pseudo R^2	0.04	0.065	0.087
LR x^2	9,393	5,589	4,842
N	168,607	62,658	41,705

Table 8: Logistic Regression Results for Air Toxics Cancer Risk. * Statistically Significant at the 0.05 Level.

	M1	M2	M3	M4
Index	1.023* (0.000)	1.019* (0.000)		1.026* (0.000)
Minority		3.362* (0.081)	5.420* (0.125)	2.032* (0.052)
Low Income		2.630* (0.088)	2.576* (0.086)	4.088* (0.144)
< High		0.812* (0.051)	0.312* (0.019)	0.816* (0.052)
Linguistic Isolation		0.853* (0.063)	2.551* (0.185)	0.474* (0.078)
<5		0.468* (0.066)	0.253* (0.035)	0.615* (0.090)
>64		0.316* (0.020)	0.265* (0.016)	0.216* (0.014)
Northeast			1.043* (0.015)	0.481* (0.008)
Midwest			0.271* (0.004)	0.172* (0.003)
West			0.841* (0.011)	0.630* (0.009)
Intercept	0.031* (0.026)	0.029* (0.000)	0.405* (0.007)	0.026* (0.000)
Pseudo R^2	0.086	0.129	0.114	0.179
LR x^2	19,242	28,938	25,501	39,749
N	168,607	168,607	168,607	168,607

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The assessment of model fit that follows, focuses on the full logistic model 4 that includes the composite index, demographics and fixed effects. Specifically, the LR χ^2 indicates a better model fit with a value of 39,749, at 10 degrees of freedom with p-values of 0.000. Therefore, the null hypothesis can be rejected, and it can be concluded that the model is statistically significant. Lastly, the correctly and incorrectly predicted results of the model are checked through running specificity and sensitivity tests, shown in Table 9. Based on the results of the test, a 71.93% of the model is correctly specified.

Table 9: Results of Specificity and Sensitivity tests for Air Toxics Cancer Risk.

Air Toxics Cancer Risk			
True			
Classified	D	-D	Total
+	29952	14402	44354
-	32926	91327	124253
Total	62878	105729	168607
Correctly Classified	71.93%		

The case of air toxics cancer risk is different than that of ozone, where as sprawl goes down, so does the cancer risk from air toxics, although the magnitude is again relatively small. This indicates that further investigation may be needed to understand this relationship. The highest magnitudes are those of senior, low income areas located in midwest states, followed by minority and linguistically isolated places in the northeast. Low education, minority percent and percent of children under 5 also have significance but again, much lower effect over the environmental indicator. In terms of signs, minority and low-income areas are indeed more susceptible to higher air toxics cancer risk, highlighting disproportionate environmental burdens. But this finding does not apply to senior, linguistically isolated areas with less access to education, or places with children under 5.

Table 10: Logistic Regression Results for Air Toxics Cancer Risk and Sprawl. * Statistically Significant at the 0.05 Level.

	All Sample	Low Inc > 40%	Minority > 40%
	M1	M2	M3
Density Factor	1.021* (0.000)	1.002* (0.000)	1.026* (0.000)
Mix Factor	0.995* (0.000)	1.001* (0.000)	0.993* (0.000)
Centering Factor	1.005* (0.000)	1.004* (0.000)	1.002* (0.000)
Street Factor	1.002* (0.000)	0.994* (0.000)	0.989* (0.000)
Intercept	0.030* (0.001)	0.045* (0.002)	0.267* (0.018)
Pseudo R²	0.095	0.084	0.078
LR χ^2	21,311	7,329	7,580
N	168,607	62,658	69,725

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Same as before, Table 10 zooms into the four sprawl factors and their relationship with air toxics cancer risk. The first model shows the results of the whole sample, while the next models focus on subsets of vulnerable groups.

Table 10 shows that as sprawl dimensions increase (less compactness and more sprawl), cancer risk from air toxics goes down, except for the mix factor. Areas with a higher mix factor are likely to have lower air toxics cancer risk. The pattern changes in areas with low-income population of more than 40%, whereas density, mix and centering factors go up, ATCR increases, except from the street factor. Lastly, in areas with racial minorities of more than 40%, the cancer risk from air toxics goes up with higher density and centering factor but goes down when mix and street factors go up.

Discussion

The results from the analysis shown in Tables 5 – 10 revealed statistically significant links between urban sprawl and environmental justice in US territories. There are two main findings that emerge from this work:

Degrees of sprawl contribute to the ‘ozone paradox’: The results from the logistic regression of Table 5 confirm the central hypothesis and validate existing findings that in more sprawled places in the US, residents may have a higher risk of being exposed to ozone concentrations. This finding aligns with previous studies that support an association between ozone and less, compact urban form that may lead to higher traffic volume, which may be lower in higher density developments due to the availability of public transportation (Schweitzer and Zhou, 2010; Stone, 2008; Stone and Rodgers, 2001). In addition, it was shown that ozone concentrations are indeed associated with higher levels of low-income and less than high school education, which has also been shown elsewhere (see Schweitzer & Zhou, 2010). Lastly, Table 7 shows a weak, but statistically significant, association between ozone concentrations in places with more than 40% low-income and low educational levels, and some sprawl dimensions -density and street factors-, which has not been previously investigated. This last finding is the first, preliminary attempt to directly connect sprawl and environmental injustice.

Some dimensions of sprawl contribute to higher air toxics cancer risk, while others reduce it: Based on Table 8, it is shown that as compactness levels go down, so does the risk from being exposed to carcinogenic air toxics. Again, this association is statistically significant, but has a small magnitude. While there exists no research directly addressing this relationship, human exposure to outdoor air pollutants that may cause cancer is a very important variable that should be part of human-centric approaches linking sprawl with air pollution. Moving forward, the next interesting finding from Table 8 shows that ATCR is higher in areas with higher percentages of racial minorities, low-income and linguistically isolated groups. It overlaps with ozone in the low-income variable and confirms the asymmetrically distributed burdens of environmental pollution that have been shown elsewhere (see Pratt et al., 2015; Schweitzer and Zhou, 2010; Tessum et al., 2019; Woo *et al.*, 2019). Lastly, Table 10 reveals statistically significant, but weak, associations between higher density and centering factors and higher levels of ATCR in blocks with minorities of more than 40%, but lower cancer risk for a higher mix factor. Along with the findings from Table 8, it does not indicate that sprawl is good; instead, it raises the question of how much compactness and less sprawling is good, and which dimensions we should be focusing on for future development.

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Limitations

A statistical analysis of the links between urban form, air pollution and vulnerable populations is definitely complicated, as it attempts to connect multi-dimensional phenomena of inherently different nature and there is likely no possible way of capturing all their aspects at the same time. The way each aspect is measured is another limitation, which is subject to additional considerations, such as instrument bias, sample size and other data uncertainties. This holds true for both sprawl and air pollution data. In addition, while spatial boundaries for blocks, counties etc., are useful in improving our understanding of the urban form and in identifying vulnerable populations, they do not necessarily align with air pollution boundaries.

On the other hand, research continuously moves forward to capture more dimensions of urban sprawl and air quality in more areas, which gives us access to more and bigger data. While there is a need to move beyond single-case studies and explore less-studied urban scales, such as blocks and neighborhoods (Artmann *et al.*, 2019), there is a trade-off between precision and resolution (EPA, 2016). A national-level analysis may be limited in providing an overview and identifying patterns for further consideration. A more thorough examination drawing on higher quality data, mapping visualizations and context-specific information can be the next step of such an analysis and may reveal aspects of this story that would be invisible otherwise.

Lastly, the analysis utilized in this paper attempts to incorporate some demographic indicators into the relationship of sprawl and air pollution, which has been deemed useful elsewhere (see Artmann *et al.* 2019). Therefore, the focus is on identifying an association and not describing a causal mechanism behind this relationship. Perhaps, there are several other ways of measuring this association, such as using longitudinal data, which may overcome possible omitted variable bias, or through utilizing a county-level analysis, which may allow to include more environmental justice dimensions that can be visible in such scales. Also, using U.S. Census demographic indicators related to race and minority groups is based on self-identification and reflects a social, rather than a genetic or biological definition of race. Such an approach may contribute to naturalizing racial categorizations, but on the other hand, it can enhance awareness of unequal environmental impacts and built environment choices. Nevertheless, the analysis can provide new insights in the ongoing discussion of more compact and sustainable urban development patterns and inform researchers of the particular dimensions of sprawl that may require further focus, such as street accessibility and urban, built-up density.

Conclusions

This paper employed a regression analysis approach to identify possible links between urban sprawl and environmental justice indicators in US territories. The sample was composed of 168,607 blocks with assigned characteristics that included ozone levels, air toxics cancer risk, sprawl/compactness dimensions and percentages of vulnerable population groups, such as children, seniors, and linguistically isolated racial minorities, with low income and low education levels. The research question was whether individuals with vulnerable demographic characteristics who reside in less compact blocks have higher risks of being exposed to lower environmental quality, specifically high ozone concentrations and high cancer risk from air toxics.

Sprawl is a well-known unsustainable urban development pattern, which has been rapidly systematized in various cities of the world after the industrial era, but there is still a lot of uncertainty in terms of what sprawl really means and what would be the best way to measure

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it. The updated sprawl/compactness index by Smart Growth America utilized in this study, treats sprawl as a measurable phenomenon with measurable consequences for people. Therefore, it allows for a thorough examination of the relationship between sprawl dimensions and environmental justice indicators.

Literature addressing directly the synergies of environmental injustice and sprawl is very limited, but as seen previously, there are several studies that connect either sprawl with air pollution or sprawl with social discrimination. This paper moved forward to investigate the integrated links of those dimensions and found statistically significant associations among aspects of sprawl and environmental injustice indicators. The relationship among sprawl and ozone showed that less compact urban development can be harmful for human health and welfare of vulnerable populations, especially in terms of density and street accessibility. The link between sprawl and ATCR showed that sprawl, and specifically lower density and centering, may contribute to lower cancer risk from air toxics in the same populations, but a higher mix factor links to less ATCR. Nevertheless, both findings highlight that planning and policy making processes should protect individuals, groups and communities from unjust regimes.

The results also suggest that further research is needed to study those phenomena in the micro-level, and that both scholars and practitioners should not just be concerned of reducing sprawl, but instead focus on reducing those particular aspects of sprawl that pose significant environmental challenges for socially vulnerable population groups. First, there is a need to evaluate the combined risk of multiple environmental aspects, such as pollution from ozone concentrations and other air toxics in the neighborhood level, which can provide a better picture of social context and urban form characteristics, such as density, centering and street accessibility. This could help assess the extent to which, certain compactness dimensions, such as street connectivity and mix of jobs need to be promoted, while balancing factors such as urban and population density and centering of people and businesses. Along those lines, future work should also identify socially vulnerable neighborhoods, but with low levels of pollution that have achieved local innovation and community building through promoting a more compact urban development form.

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Social Responsibility for Architects in a Global Construction Practice: A Theoretical Foundation

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This article seeks to conceptualise an understanding of the role and the nature of socially responsible architects and their architectural firms in a rapidly growing global construction market. Recognising a construction site as a key field for architectural and urban research, the theoretical framework reflects the need for working interdisciplinary to understand current phenomena, the social conditions of global building production, the role of the architect within a globalised building practice, and the perspective of governance ethics. Therefore, it brings together various theoretical perspectives from (1) the profession of the architect, (2) the role of ethics in globalised professional design services, (3) corporate governance and business ethics, as well as (4) stakeholder theory. In particular, the paper describes the rapid intensification of moral challenges in this contemporary global construction practice, and it concludes that the social principles of justice and inclusiveness need to be embedded in architecture, planning, and construction.

Keywords: Global architectural practice, construction, architectural ethics in practice, social responsibility.

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Introduction

While globalisation generates new working opportunities for architects and other related professions, it also has brought with it issues of ethical and social behaviour (Gunder & Hillier, 2007, 2009; Marcuse, 1976; Spector, 2001; Sadri, 2012). One of the major contractually tied responsibilities of architects is to meet the client's needs within budget and on schedule. This however often conflicts with human resource issues, such as working hours, health, safety, and health insurance for the construction workers. Accidents at construction sites are tragic. For example, over 974 Indian and Nepalese migrant workers have died of sudden cardiac arrests 'or an accident at work' in Qatar since January 2010 (Gibson, 2014). This highlights the dilemma of the production chains in building on a global level where standards (ILO, 1932) and human rights are violated. Such precarious working conditions in a fast growing global building boom can also be found on other large construction sites, such as in China (Bronner & Reikersdorfer, 2016) in the projects for the FIFA World Cup in Brazil 2014 (Bloomer & Neiva, 2014) and the Winter Olympics in Sochi 2016 (Human Rights Watch [HRW], 2013, 2017). These incidents do not only happen in authoritarian regimes or developing countries but also in metropolises like New York (Chen, 2015). In the last years, the building boom in New York claimed a rise in deaths and injuries of construction workers, who are mostly from Latin America and are not authorised to work in the United States. Chen points out that 'the deaths make clear that the city is being built, or in some cases rebuilt, heavily on the backs of recent immigrants' (Chen, 2015, p. 5). The European Union Agency for Fundamental Rights (FRA) also reports poor working conditions, long working hours and significant underpayment for mainly Eastern Europeans working on construction sites in various Central European countries (FRA, 2015, p. 11). These cases hint at deeper social issues within the construction business as well as in the political realm; Bhacker (2016) claims that in her article 'the construction industry must step up on human rights'(p. 1). The roots of this situation have not been sufficiently taken into account because there is inadequate training and because workers in the construction industry are not at all socially integrated, which is a condition that essentially precipitated from the rapid global urbanisation (Linder et al., 2013, 2014).

In the context of this paper, special attention is drawn toward the site of production – the construction site, which is still a neglected 'place' within architectural research and discourse. The building process takes a back seat in the global debate on contemporary urbanisation processes. However, 'the social processes on architectural construction sites are a key entry window to understand current phenomena of the social production of urban spaces' (Knierbein, 2016, p. 9). Furthermore the role of the architect within this global building practice is questioned.

Architects are involved in these global construction processes (Gunder & Hillier, 2007). Their actions and decisions, directly and indirectly, affect construction workers. Their decisions have ethical, social and environmental impacts and require processes of reasoning on multiple stages (Human Rights Watch, 2013, 2017). This involves the exercise of judgment rather than the 'mere application of rules' (Campbell & Marshall, 2005, p. 199). In this context, the notion of responsibility goes beyond contractual obligations and their fulfilment. Therefore, they are compelled to consider increasing environmental, economic and social planning challenges in their practice (Desai, 2010; Fischer, 2010). Even though there is today a growing awareness of the responsible use of resources (Wackernagel & Rees, 1996; McDonough & Braungart, 2002), as well as the environmental and social impact of buildings (see systems for certifying sustainable buildings), scholarly research so far has paid little attention to the social responsibility in construction processes. By addressing ethical issues that arise during the process of production in a globalised building practice, such as the labour conditions of construction workers with insufficient training and poor work safety conditions, this paper aims

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to build a theoretical framework not only for understanding current global construction practice but also for promoting fairness, sustainability, and shared values in the process of building.

In this understanding, this paper investigates the role of social responsibility of architects in today's global construction practice from a planning theory and governance perspective. It is the objective of the author to raise awareness by embedding the research in the scholarly discourse on the issue of social responsibility of architects during the planning and construction process. Accordingly, this paper is organised as follows: First, the author focuses on stances of social engagement of architects and combines historical analysis with contemporary examples. Second, an overview on the globalisation of the profession of the architect and its capabilities to act in a responsible way in daily globalised practice is given. (AIA, 2007; Gunder & Hillier, 2007, 2009; Marcuse, 1976; RIBA, 2005; Sadri, 2012; Spector, 2001). Third, as it is crucial to investigate the relationships, stakes, claims, dependencies and organisation of the various actors involved in construction for the understanding of leadership in planning processes, the stakeholder theory (Freeman, 1984, 1991; Wieland, 2014) as well as discourses on governance ethics (Wieland, 2007, 2014, 2015, 2017) serve as further theoretical anchors to build the link between competitive advantage and social responsibility (Porter & Kramer 2006, 2011).

Social Engagement of Architects

To create a broad understanding of the development of the profession of the architect and its social involvement, it is essential to contextualise the concept by means of a historical view, followed by a brief characterisation of the job profile. Investigating the social role and responsibilities of architects is especially based on the perception that architecture affects society; it can create better places, and it can even have a role in making a place civilised by making a community more liveable (Jubany, 2011). Architects have engaged with political, social, and environmental issues, and dealt with them in their writing, designs, plans, and utopias. This was specifically evident in their response to the rapid urbanisation, industrialisation, standardisation, and serial production that engulfed Europe during the 18th and 19th centuries (Curtis, 1996). For example, Sir Ebenezer Howard's concept of the garden city came as a response to the rapid urban development, promoting planned, self-contained communities surrounded by greenbelts, and organised in residential, commercial, industrial, and agricultural areas (Howard, 1965 [1902]). Another response in the early 20th century to address social problems and urban poverty in growing cities was the architectural modernism movement, which first relied on rapid technological advancement in production and functional design (Nerdinger, 2012).

Drawing on the connections between architecture, modernity, and dwelling, a modern utopia of the ideal city, a functional city, was created and the architect was perceived as the creator of the visions (Heynen, 1999). In the modernist understanding, master planning is a powerful economic and political instrument that can improve social issues through transformation of the environment (Bergdoll, 2010). In the 1920s and 1930s, the vision became real in the form of large-scale social housing projects, such as various European developments like Karl Marx Hof (1927–1933) by Karl Ehn in Vienna, Kensal House (1938) by Maxwell Fry in London, or the Horseshoe Estate (1925–1933) by Bruno Taut and Martin Wagner in Berlin. Through formation of the Congrès International d'Architecture Moderne (CIAM) in 1928, universal architectural principles were formulated, the most mentionable being is the Athens Charter by Le Corbusier, which substantially influenced the modern movement (Bergdoll, 2010). Bergdoll (2010) points out that 'this view of the architect's role, often laced with technocratic utopianism, was perhaps most clearly embodied in Le Corbusier's appeal for a system of modern architecture that was integral to a unified urban vision' (p. 7).

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After post-World War II reconstruction, the visions of the modernist architects and their 'strong sense of social responsibility in that architecture should raise the living conditions of the masses' (Henket, 2002, p. 10) were extended to a global scale, and the aesthetics of modernist projects were associated with prosperity and progress. The example of Le Corbusier's masterplan for Chandigarh (1951–1956) was an attempt to apply the concepts of the *Unité d'Habitation*, a symbol for modernist residential housing, to India. However, Prakash (2002) states '*...not only architectural but also economic and institutional modernism, certainly produced a great deal of professional expertise, but failed to stage the decolonisation of India because it's elitist, top-down framing never enabled it to gain the legitimacy to represent properly, to speak for the people in whose name it was exercised. The failure here was not one of translation, as Spivak points out, but one of transfer of idiom*' (p. 152).

The perceptions changed in the 1970s and criticism was levelled at the modernist top-down planning attitude of architects who systematically neglected the needs of the individuals. After 1960, a less evolutionary and more revolutionary critical reaction to modern architecture emerged with the development of postmodernism (Rowe, 2011). The clean lines and functional orientation of modernism were questioned, resulting in a broad, diverse, and pluralised discourse towards context and tradition, as first articulated in the writings of Robert Venturi and Denise Scott-Brown (1972). One line of thought is known as 'critical regionalism'. Its representatives – for example, Glenn Murcutt, Sam Mockbee, Peter Zumthor, Jørn Oberg Utzon, and Alvar Aalto – reflected differences in climate, ecology, culture, and architectural traditions in their designs (Frampton, 1983). Simultaneously, the focus of a wider perception shifted to environmental burden, the harm to the environment, and a rising awareness of the need to protect it.

In the 1980s, participatory planning approaches gained a ground and the involvement of users and communities became an important topic in planning processes. Concepts like co-housing promoted the creation and maintenance of affordable living in communities with shared facilities (Tummers, 2015). In 1986, Clare Marcus-Cooper formulated a call for 'housing as if people mattered' in a book of the same title, where she proposed design guidelines for medium-density family housing with a focus on community places (Marcus-Cooper & Sarkissian, 1986). In 1982, the organisation Architects for Social Responsibility was founded to promote 'peace, environmental protection, ecological building, social justice, and the development of healthy communities' (ADPSR, 2015, para. 2). And already three decades ago, Murvin stated:

The architect is responsible for imparting distinctive aesthetic qualities to our buildings, yet his realm is not buildings alone. The proper fulfilment of the architect's responsibilities requires competent, ethical, and impartial service, not only on behalf of the client, but also in the public interest. Seldom does a building effect only its owner, nor does it stand alone. For this reason, the architect is responsible for designing buildings that protect the health, safety and welfare of all who use them and also enhance the environment by taking due regard for the natural environment, existing physical factors, and circulatory patterns. (Murvin, 1982, p. iv)

In the course of the ongoing internationalisation of architectural firms from the 1990s onwards, architectural practices placed a stronger focus on the needs of their clients (Till, 2009). Nowadays, an architect is mainly defined as a person who is professionally engaged in the design, planning, and construction of buildings and, in this process, has to fulfil various obligations and services. Architecture transformed into a globalised business with prominent celebrities of international renown branding cities with their iconic cooperative designs (see, e.g., Guggenheim effect in Bilbao, Guasch & Zulaika, 2005). In contrast to these

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developments, the architectural profession also had to deal with growing social, economic, and ecological issues in the course of rapid urbanisation, climate change, and overuse of resources (Burdett & Sudjic, 2007; Droege, 2006, 2012).

Today, a shift in the profession – from the architect as an individual creator of buildings towards a more collaborative way of working – can already be observed as the product becomes more and more globalised and complex. More importantly, the architect is not the single creator of a building and thus needs to see him- or herself as a part of a wider network and as the conductor or facilitator of processes that span between varied realms, such as knowledge and action, design and processes, and different interests and places. Since the advent of the 21st century and the impacts of the economic crisis, there have been an increasing interest and discussion in the planning community about socially responsible design. Mangold (2015) identified a variety of names for socially responsible design, including *Design Activism*, *Public Interest Design*, *Human-Centred Design*, *Social Impact Design*, and *Social Design*. Up until now, there has been no common definition for socially responsible design, but in general it is characterised by ‘attitudes that value justice, equality, participation, sharing, sustainability, and practices that intentionally engage social issues and recognise the consequences of decisions and actions’ (Mangold, 2015, para. 1). Furthermore, architectures of social engagement tend to focus on the design of communities that respond to their localised needs and are embedded in the local environment by using local materials (Lepik, 2010). The recent example of the 2016 International Architecture Biennale in Venice showed the growing engagement of architects in issues that pertain to the socially responsible and sustainable architecture. By bringing these considerations onto the stage of international architecture and planning; the curator and Pritzker Prize laureate Alejandro Aravena drew a broader attention with his exhibition *Reporting from the Front*, which was ‘scrutinizing the horizon looking for new fields of action, facing issues like segregation, inequalities, peripheries, access to sanitation, natural disasters, housing shortage, migration, informality, crime, traffic, waste, pollution and the participation of communities’ (Aravena, 2016, para. 5).

As shown through historical contextualisation, the social engagement of architects through socially conscious design is not a new phenomenon, but the focus on socially and ethically responsible concepts concentrates mainly on the final results (built infrastructures) and not on the production process (touching the ground on the construction site). Consequently, the role of architects, their responsibilities, and their social engagement need to be more and more questioned and redefined, especially in a more and more globalised practice. Therefore, within the next part, the author takes a closer look at the impact of globalisation on the profession in order to understand its interrelated dependencies.

Global Architects and Their Firms

We live in a world of global flows and connectivities. An action on one side of the world can have profound impact on the other. Responsibility has taken on a global dimension. (Gunder & Hillier, 2009, p. 161)

The inception of globalisation over the last decades has dramatically changed the working practice of architects and architectural firms. As a result of these cross-linking and global standardisation processes, contemporary architectural practice requires, among other aspects, knowledge about numerous different local, regional, and international building codes and laws as well as skills in cultural diversity, cooperation and communication (UIA, 1999). Moreover, the planning and construction field today is heavily influenced by free trade agreements (e.g., the General Agreement on Tariffs and Trade [GATT], 1994), regulatory organisations (e.g., the World Trade Organization) and economic interests (e.g., foreign direct

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investment). In the understanding of McNeill (2009), architecture is a range of 'spatial products' (Easterling, 2005, p. 2) that plug territories into global economies. While transnational economic processes with flows and exchange of capital, labour, goods, and raw materials have shaped the urban environment over centuries (Freeman, 1991; Sassen, 2002), a major shift in the planning practice occurred in the early 1980s as a result of privatisation and deregulation (as reflected in 'open door policies' of national markets to foreign architectural firms) and with the development of computer-aided design (CAD) and modern communication devices. This electronic technology changed the architectural profession, giving it endurance and increasing the architect's ability to play a vital role in globalised building processes, and thus in global markets.

Simultaneously, the emergence of global architectural firms like Gensler, Skidmore Owings & Merrill (SOM), Kohn Pederson Fox (KPF), and AECOM reflects the changing patterns of global trade rules. These particular architectural firms from Western countries (North America and Europe) took the opportunities to expand their architectural services into emerging markets at that time, such as China and the Middle East. The distinct asset of these big global players is that they have 'transnational corporation networks' (Castell, 1996; Dicken, 2003; Faulconbridge, 2009) throughout North America, Europe, and Asia. This global practice has been accelerated as corporate clients (e.g., industry, banks, etc.) take their architects with them as they expand their businesses to growing foreign markets (Keune, 2007; McNeill, 2009). Winch and Schneider (1993) point out that they have a 'strong service' towards their mainly corporate clients in meeting their needs, creating an iconic and distinct corporate design, and managing complex, challenging, and innovative building projects. This increasing flexibility and mobility in the architectural field is not just having a powerful impact on contemporary architecture, its production and on-site conditions but also on the organisation of planning offices.

Architectural firms have different service delivery processes compared to other global service firms, as buildings have a project-based nature and furthermore, and they are unique inasmuch as they have fixed locations (Faulconbridge, 2009). In this context, architectural firms, with their global production networks, have to adapt to the local circumstances because their product is embedded in cultural, economic, political, and social contexts, which they need to take into consideration when designing their buildings. Building remains very local in its implementation and has a direct impact on the involved actors and people's lived environments. In this diverse, multinational and multifaceted field of action, individual architects can be confronted with ethical, moral, social and environmental challenges like human rights issues, the shortage of building resources or climate change, which are not always codified by international law. Therefore, the rules for international practice need to be redefined as responsibility extends across borders.

If talking about the global dimension of social responsibility in a more and more internationalised architectural profession, one has to take a closer look at the existing codes of ethics and guidelines for practice, which have been introduced as a set of rules for social norms and standards by various national professional governing bodies. The most influential national bodies like the Royal Institute of British Architects (referred to hereafter as RIBA) and the American Institute of Architects (referred to hereafter as AIA) have been established for the governance of the architectural profession and the advancement of knowledge, and to assure ethical standards and serve in the interest of society (Appelbaum & Lawton, 1990, p. 4). Moreover, the codes govern the process of architectural practice and include various obligations of a registered architect to the client, the public, the profession, colleagues, and the environment and refer to the honesty, integrity, and competence of the architect (AIA, 2007). However, the existing ethical codes of conduct of national professional bodies like RIBA

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or AIA are considered too weak for rising ethical challenges in a globalised practice (Till et al., 2015).

In a globalised world, where internationally oriented architectural firms have many projects in various countries, these codes of ethics and conducts need to go beyond national borders and have to be universal. Throughout the 20th century, various national architectural registration bodies have established an exchange or founded additional representative organisations like the Architects' Council of Europe (ACE) at the European level, and the International Union of Architects (UIA) has emerged as an organised umbrella body to unify architects across the globe (Keune, 2007). The UIA developed the 'Accord on International Standards of Professionalism in Architectural Practice' (UIA, 1999), as steps towards establishing a more social practice for internationally practising architects; however, these standards are recommendations and not legally binding. Still, rapid urbanisation and intensive urban growth are built on cheap available labour and have enabled a highly exploitative labour subcontracting system because construction requires very intensive labour work (ILO, 2016). Therefore, it is necessary that current architectural practice goes beyond national codes of conduct and builds greater awareness towards a more universal, socially responsible, and just architectural approach, especially during the building process. For this purpose, this debate needs to be built on existing frameworks such as the international labour standards monitored by the International Labour Organisation (ILO), or the UN's Sustainable Development Goals (SDGS, 2013) and the ISO 26000 (2010). These standards are based on the Universal Declaration of Human Rights, Articles 23 and 24: the ILO 'helps advance the creation of decent work and the economic and working conditions that give working people and business people a stake in lasting peace, prosperity and progress' (ILO, 2016, para. 2).

A theoretical framework is provided for building on the notion of a universal, socially responsible architectural approach and the link between ethics and architectural services as a business. These considerations of the architectural firms as organisation form, which can serve society and meet economic interests, are written from the perspective of governance ethics.

Governance Ethics: Architecture as Globalised Practice

When designing, planning, and building abroad, architects and their firms deal not just with cultural differences, country-specific building regulations, and local working practices, but could potentially find themselves caught up in work on the construction site that violates various labour laws and human rights. Even if the architects are, generally speaking, not legally responsible for health and safety issues on site because these are executed and monitored by the construction companies, these activities still need to be put into the larger social, economic, and ecological context of the production of space. In this understanding, architects are embedded in wider systems such as commercial and economic systems (Olds, 2001; McNeill, 2006, 2009; Till, 2009). Therefore, the evolution of the role of architects and planners, in a global context, has to be considered by discussing issues like moral or value conflicts. In addition, the on-going withdrawal of national state regulations have elevated the discussions on the aspect of governance ethics of construction processes, which focus on the 'process of the emergence of normative global orders involving the establishment and implementation of globally accepted "rules of the game"' (Wieland, 2014, p. 61).

Social and environmental standards are set not only by policy frameworks but also by the firms themselves because, according to Freeman (1984), they are understood as the owners of resources who create value in the production chain. Hence, architectural firms are socially legitimated governance structures for the realisation process of a design service. Therefore,

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one of the basic assumptions is that the organisation of the firm – in this specific case, the architectural firm – needs to implement and create a governance structure to deal with ethical issues during this process. This is not only important for solving the moral conflicts but also for generating values like integrity, fairness, inclusion, and justice for all actors involved in a construction project (Wieland, 2015). The assumption in this context is that nowadays, architectural firms, as global players, are not only standard-takers but also standard-creators for moral values (Wieland, 2014).

In common practice, architecture firms often conceive themselves as commercial organisations working for the owners of resources (i.e., the capital investors or the clients) for the purpose of providing architectural services, which range from the design to the preparation of construction documents and the construction administration. In delivering these services, the cooperation 'is an interaction between owners of resources to their mutual advantages, whose underlying stability depends, on the one hand, upon a preponderance of shared interests over conflicting and diverging interests and, on the other, on the shared moral values of actors' (Wieland, 2014, p. 49). Here, the concept of intersectoral governance allows to internally develop moral values for decision-taking and decision-making.

'Intersectoral governance is a specific form of the management of cooperation of individual and organisational, material and immaterial resources and capabilities. Its goal is the creation of shared value through the efficient and effective implementation of transactions across two or more sectors of society. Its method is polylingualism meaning the ability to reconstruct the interests of all relevant stakeholders at their intrinsic value and to integrate them into a common perspective' (Wieland, 2015, p. 11).

Applying these remarks to construction means that intersectoral competence and capability are constitutional preconditions for the existence and success of a construction project and this is per se a polylingual organisational system. In this understanding, construction projects are characterised by their uniqueness, temporary nature, dynamic process, financial, temporal, personnel or other limitations, clear demarcation of other projects and project-specific organisation structure (Brandenberger & Ruosch, 1996). Along the realisation process of a construction project, various stakeholders are involved, and the interconnections and dependencies between those can be very complex as different disciplines, interests and hierarchical levels are engaged. Consequently, construction projects are a temporary nexus of stakeholders during the dynamic planning and building process.

As part of the construction process, architects have direct contact with clients and other stakeholders such as planners, regulators, and construction companies. Similarly, architects' choices determine the subsequent actions of partners in the production chain of construction. Therefore, their implementation of the decision-making process is relevant for all involved stakeholders. Architects and their firms not only have an obligation to their clients; they also have a responsibility toward society and the environment. The discourse on social responsibility in architecture and planning is an old one and highly connected with the perception of the profession and the role of architects; however, corporate social responsibility in the construction business is a rather new topic (Heerze, 2010). Thus, the debate about the standards of social responsibility for architects needs to be connected to the framework of governance ethics and the debate about the nature of the architectural firm in a globalised practice. Not only the individual architect but also architectural firms need to deal with the issue of social responsibility in moral situations; they are asked to assume leadership and set standards for architecture and construction. In other words, clients or contractors may not increase their governance of job site safety unless they feel pressured to do so, and if no architectural firms are willing to work for certain clients or cooperate with certain contractors

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because those clients or contractors are violating human rights standards on their construction sites, this might sufficiently increase the pressure. This approach is not only legitimate but also inevitable if the social responsibility debate is implemented into the business models of architectural firms. All stakeholders, from investors to clients, architects, construction firms, and decision-makers, need to cooperate to achieve actual change in the construction business.

For this purpose, the shared value creation (SVC) concept developed by Porter and Kramer (2011) serves as a further theoretical and practical anchor to bring issues concerning society and business together. According to Porter and Kramer, this 'involves creating economic value in a way that also creates value for society by addressing its needs and challenges. Businesses must reconnect company success with social progress' (2011, p. 49). In that sense, Porter and Kramer's SVC concept (2011) 'is essentially about "creating", "developing", "opportunities", "to help", with the cooperation of organisations, i.e., about a common learning process involving business, politics and society, that includes the possibility of failure' (Wieland, 2017, p. 10). Here, it is crucial to understand the current social processes and dynamics on construction sites, as they are a reflection of production patterns of contemporary urban spaces. As construction is a multidimensional process, increasing awareness must take place among all the different stakeholders involved in construction sites, starting with the client and the investors and continuing with communities, planners, managers, executing companies, private enterprises, trainers, and future residents of the building. In order to further build on 'shared values, principles and priorities for a common destiny' for more inclusive and sustainable societies and built environments (UN, 2014, p. 5), it is necessary to define a common learning process involving these stakeholders.

To follow this theoretical framework of governance economics, the understanding is that an architectural firm can integrate 'social, environmental, ethical, human rights and consumer concerns into their business operations' (EU, 2011, p. 6). Consequently, one of the objectives of this theoretical framework is to create a shift in the perception of architectural firms and for them to implement a value management system to fully meet the requirements of their corporate social responsibilities.

Conclusions

Today more than ever, architects need to be prepared to act in an international environment and to deal with the growing global challenges of climate change, limited resources, social inequality, and its related moral issues on construction sites. Within this setting, there is a growing need for new global leadership to encourage sustainability and social planning developments, particularly as global architectural practices are closely intertwined with political, economic, cultural, and social forces. It becomes obvious that there is an urgent need for improvement of the moral and ethical standards in the global construction industry, and this must also involve the architect. Therefore, the theoretical framework reflects the need for interdisciplinary work to understand current phenomena, the social conditions of global building production, the role of the architect within a globalised building practice and the perspective of governance ethics. Only integrating these various approaches helps gaining a broader understanding of the interwoven social, economic, and ecological interconnections, dependencies, relationships and conditions of globalised construction practices. Consequently, the role of architects, their responsibilities, and their social engagement needs to be more and more questioned and redefined within the process.

Architects do not only work in a highly interwoven and transnational construction sector, they are an integral part of the production of space. They are also a vital part of the global

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construction value chain and are affected by commercial, legal, and economic rationale. Therefore, first, it is essential to position the profession of architects as creators of space in both historical and contemporary contexts and to describe their social capabilities and engagement. Secondly, it is imperative to reflect on the responsibilities and duties of globally practising architects and their firms during their work by referring to the code of conduct. Above all, codes alone are insufficient to ensure the ethical behaviour of architects, as they need to be unequivocally implemented and lived. Ethical standards that are contextually-sensitive should be developed to enhance a more responsive global architectural practice. Third, by drawing attention to the role of the architectural firms within the global network, the consequences of design and planning decisions, and their direct contact with other stakeholders such as the client, the developers, the authorities, the contractors, and the construction companies, reveal the architectural firms as a central and active stakeholder for leveraging change in the construction process. Consequently, this article claims more awareness of social issues among those involved in the global construction business. It calls for action that includes principles of fair construction conditions for workers, which can be considered in a fair planning and design approach in early project stages.

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