Urban Planning in the Spontaneous City

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Editor

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Abstract: This is an editorial that explains the significance of the Special Issue on Spontaneous Urban Planning at the Intersection of Markets, Democracy, and Science. Urban planning has traditionally neglected dynamic theories of markets or politics. In this issue, the authors show that much can be gained from a theoretical approach that recognizes the spatial aspects of entrepreneurship and institutions, as well as higher-level entrepreneurial innovation of the very institutions that shape the entrepreneurial discovery process in cities.

1. INTRODUCTION

In May of 2019, *Cosmos + Taxis* organized its fourth conference in Vancouver, British Columbia, with the generous support of the Department of Pathology and Laboratory Medicine at The University of British Columbia. The theme of the conference was spontaneous urban planning at the intersection of markets, democracy, and science.

Vancouver is a suitable choice for a conference with this theme. It was one of the first cities in North America to embrace a new type of urban planning in the 1970s, in part in response to activism inspired by the pathbreaking contributions of Jane Jacobs in the preceding decade. Not only is it the city with the third highest population density in North America; it is above all a city that has embraced mixed land uses and downtown living. Recently, however, Vancouver has been beset by a common problem among successful cities around the world—it has become increasingly unaffordable. In part this is due to its success in attracting creative and productive workers, but in part it is also due to growth boundaries that in retrospect have proved to be too restrictive to accommodate a growing population.

Urban planning is as a field of research both multidisciplinary and interdisciplinary, and planners may have an educational background in a discipline such as architecture, engineering, economics, or political science. In this issue, the theoretical starting points are in economics and political science, or—more broadly—in political economy. A general feature of all the contributions to this issue is that they explicitly consider the spatial organization of economic activities, as well as the role that institutions play as enablers or constraints.

2. THE SPATIAL ORGANIZATION OF ACTIVITIES

While most economic and political theories tend to disregard space, the conception and analysis of spatial relationships is central to the theory and practice of urban planning. Probably the most influential theory in the social sciences from an urban planning perspective is spatial economic theory, where the central concern is the trade-off between accessibility and space in the choice of location, as Gordon and Cho note in their contribution.

The foundation of spatial economics is Johann Heinrich von Thünen's model of an "isolated state" (Thünen 1826/1875). This early model assumes a featureless plain, a central marketplace, and different rings around the marketplace that specialize in different types of agricultural production. The criterion for where to locate each productive activity is the transport cost to the marketplace per unit of land area. Like most modern spatial theories, this model assumes a static economy without entrepreneurship. Another similarity is its disregard of institutions, which implies an underlying assumption of perfectly delineated and universally respected property rights over land.

While there are thus unrealistic features in Thünen's model, it is still the case than planners who are cognizant of this model, and the various modern models that build on it such as the monocentric model of Alonso (1964), represent a concession to realism as compared with those who ignore economic theory. Architects, for example, often think of themselves as artists who design aesthetically pleasing cityscapes. But, as Ikeda (2017) explains, a city cannot be a work of art. Designating a city centre lot to an activity that demands extensive space but requires little interpersonal interaction implies an economically inefficient use of space, as does a design that includes a high-rise suburb.

But a problem with the foundational model is that it implies a strict separation of land uses. The problem is twofold. First, a strict separation of productive activities is only efficient in a static economy where all actors possess perfect information about relevant economic variables. Second, even in a static perfect-information economy, consumers may be heterogeneous in their trade-offs between space and accessibility, as well as the specific accessibility they care about, if we assume subjective preferences. The theorist can only avoid this second aspect of the problem by imposing the unrealistic assumption that each household is representative in the sense of having average preferences and budget constraints.

Both these problems represent considerable limitations on the usefulness of the model to real-world cities. If entrepreneurial innovation plays an important role, then spatial separation of activities is no longer necessarily efficient.

3. URBAN ENTREPRENEURSHIP

The urban economy is nothing like Thünen's isolated state. It is intrinsically dynamic in the sense of being powered by innovative entrepreneurs. Indeed, the most innovative entrepreneurs are disproportionately in big cities.

Marshall (1920) describes the agglomerative tendencies of industrial activities, giving rise to clusters of complementary industries. One of the reasons for such clustering is the existence of knowledge externalities, which refer to the greater likelihood that an individual will benefit from others' knowledge when those others are nearby.

But Jacobs (1961) is the first major contribution to focus on the creative prowess of cities, and how creativity and, more generally, economic vitality benefit from mixed rather than spatially separated (primary) land uses, along with certain other desirable attributes of the built environment such as short blocks, high population densities, and a mixture of new and old buildings.

In his paper in this issue, Ikeda explains how Jacobs' analyses of cities would benefit from a stronger focus on the economic role of entrepreneurs from a market process perspective. Entrepreneurs benefit from access to a wide variety of knowledge. It is easier to discover such knowledge in an economically diverse urban environment, and it is also easier to combine cognitively distant ideas in innovative ways if the inno-

vator is spatially proximate to people with *different* kinds of knowledge. These effects weaken the efficiency conclusions of the monocentric model since that model separates different types of specialists from one another in space.

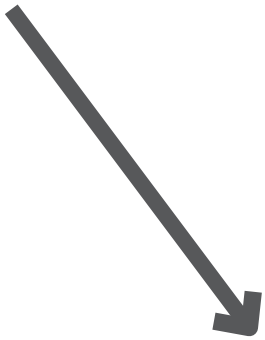
Ikeda not only contends that it is important that the people working and residing in a city should embody diverse types of knowledge, it is also important that they are open to economically meaningful interactions with people who know different things than themselves. Hence an entrepreneurial city must not only be heterogeneous and complex in its land use patterns and people. People must also be able and willing to create weak links among themselves. Taking a cue from Granovetter (1977), such weak links facilitate entrepreneurial discoveries of profitable complementarities among bits of information, ideas, theories, and skills.

Much of Jacobs's work alludes to Hayek's (1945) contention that the use of local knowledge is important for economic development. It is often beneficial to have good access to face-to-face interaction opportunities with people who possess specialized knowledge of various kinds. Examples of relevant local knowledge are local or emergent consumer preferences as well as technological breakthroughs that an entrepreneur may harness for profitable innovative ventures (Andersson 2005).

But not all knowledge is alike. This is the subtext of Gordon and Cho's contribution to this issue, where they note that although different cities tend to specialize in different industries, it is not the case that each industry is tightly clustered in a handful of contiguous neighbourhoods. In the San Francisco Bay Area, software establishments are found in all parts of the region, not just in Silicon Valley. What really matters are the different space-accessibility trade-offs that workers in different jobs but the same industry or supply chain face. In this context it is important to remember than there are different types of knowledge. Some is easy to transmit with the help of computer communications, while some requires face-to-face contact. Tellingly, Gordon and Cho find that the film industry is more distance-sensitive than the software industry.

A general rule is that entrepreneurship benefits from plentiful personal contact opportunities with dissimilar others. But this rule does not apply to all economic interactions. Table 1 is an attempt to rank different types of knowledge according to how much they benefit from face-to-face communication. An implication of this ranking is that the outsourcing of routine data processing tasks to distant lands often makes a great deal of economic sense. The creation of new product designs and the learning of problem-solving skills are much more distance-sensitive.

Table 1. Types of knowledge transmission and efficient transfer mechanisms

Computer communication  Face-to-face communication	Information (nits or bits)
	Data
	Patterns
	Concepts
	Theories
	Designs/compositions
	Innovations
	Tacit knowledge

Source: adapted from Andersson and Beckmann (2009).

In abstract economic theories of entrepreneurship, such as those of Schumpeter (1934) and Kirzner (1973), it is common to take the institutional structure for granted. They implicitly assume well-defined property rights and reliable law enforcement, as in neoclassical models. In real-world cities, this is often not the case.

In many cities in the Global South, dysfunctional institutions have increased the importance of informal small-scale entrepreneurship. At the same time, they have exacerbated the difficulties of engaging in more capital-intensive kinds. In his paper, Lozano-Paredes explains that it is common for private entrepreneurs to innovate transport services in many Latin American cities. There the public sector has demonstrated that it is incapable of providing acceptable mobility services to most urban residents. Because government agencies in countries such as Colombia have a history of being unresponsive to most residents' preferences, private paratransit and neighbourhood ridesharing schemes have emerged as viable options. Entrepreneurs have innovated these services in a bottom-up fashion, taking advantage of their greater local knowledge as compared with governmental planners.

While developed cities have been better able to provide their residents with acceptable transport, they too are less than fully functional, owing to institutional constraints that have made many otherwise promising entrepreneurial ventures infeasible. Land use zoning often prevents the discovery of higher-valued uses of land in specific locations, and taxes on buildings or local services have frequently had similar effects.

4. INSTITUTIONAL ORDER

In the economic life of a city, the most salient institutional consideration is whether (and to what extent) land use regulations and various taxes and prohibitions impinge on entrepreneurial—that is, dynamically productive—as well as statically productive economic activities.

Spatial economists have known for a long time that the only tax that does not impose a penalty on entrepreneurship or the productive use of resources is a tax on the value of land. Such a tax only makes rent capture more difficult (George 1879/1935). In their paper, Foldvary and Minola propose an alternative democratic principle of organization that they believe will result in a predilection for making a land value tax the only or main source of public revenue. They call this alternative principle "cellular democracy," which would privilege decentralized decision-making at the neighbourhood level. Many public goods only have local effects and decentralized elected decision-makers or for-profit community entrepreneurs have the strongest incentives to provide them in an efficient way. Conversely, federations of neighbourhoods, with representatives of each constituent "cell" in higher-level legislatures, could then concentrate on the provision of public goods with effects on larger geographical areas.

Dobuzinskis offers a skeptical counterargument in his paper. While acknowledging that a Georgist land value tax is the most efficient tax, he contends that it is too far from where we are at present. Dobuzinskis contends that this is a common problem that bedevils many political prescriptions that have their origin in some explicit or implicit social contract theory. This not only includes George's proposal, but also those of such leading twentieth-century political philosophers as Rawls (1971), Nozick (1974), and Gauthier (1986). In addition, there is also the practical problem that Western publics demand more comprehensive welfare states than existed at the time of George's proposal, and thus a land value tax can at most be an addition to some of the existing taxes. The gist of Dobuzinski's argument is that political reform must take the existing structure as its point of departure and can only be successful if it takes a pragmatic and incremental approach.

5. SPATIAL INSTITUTIONAL ENTREPRENEURSHIP

There is not only entrepreneurship within a given institutional structure. There is also entrepreneurial innovation of the structure itself, with inevitable consequences for the spatial organization of economic life.

Hudik provides an unusual and somewhat counterintuitive example in his paper. In the post-1978 period of economic reforms in China, most people's communes decollectivized and adopted the "household responsibility system." The new system gave individual households *de facto* private ownership over plots of land, and households could therefore sell at least a share of their output at market prices and as residual claimants. This reform resulted in a dramatic increase in agricultural productivity, yet some communes resisted decollectivization.

Huaxi Village in Jiangsu Province is an example of such a commune. Despite retaining its collective governance structure, Huaxi became the richest village in China, though it had been a typical poor village in the pre-reform period. Whereas the village resisted decollectivization, it did engage in diversification by focusing on different manufacturing activities, rather than on farming, after the reforms. Hudik argues that Huaxi introduced an institutional innovation. In effect, the new institutional structure has made the village akin to a cooperative holding company that sells its output at market prices. It has become an island of planning within a sea of markets. Unlike Chinese state-owned enterprises, it faces a hard budget constraint, and its workers are part-owners rather than employees. Because of prevalent scale economies and high levels of trust among the villagers, the new market environment has made it more successful than it would have been under the more common small-scale agricultural model of the household responsibility system. It resembles a classic company town more that a traditional village. Although a traditional village may spontaneously evolve into a great city or disintegrate into a few scattered farms, a company town occupies a more constrained niche somewhere midway between a small village and a great city.

In a related vein, Berg and Berg use the concept of *forking*, which they have borrowed from the open source software community. Forking happens when a joint source splits into two forks with a shared history but divergent futures. The same can happen with institutions, which are in principle like open source code. They describe two such forking incidents in their paper. In one case the institutions of the United Kingdom provided open source institutions for the new fork of Australia. This was a successful fork that eventually generated great cities such as Melbourne and Sydney, with institutions—both formal and informal—that at the same time resemble and are distinct from those of contemporary Britain. The second forking, which was less successful, was the new fork of New Australia in Paraguay. This was a settlement that tried to innovate institutions based on an Australian source in the late nineteenth century. In New Australia, the Australian norm of "mateship" was combined with the new institution of sharing resources equally, regardless of ability or effort. Due to the predictable incentive problems that occur among people who earn the same no matter what they do, New Australia did not retain or attract enough people to survive, let alone thrive. Berg and Berg argue that the world is full of both successful and unsuccessful institutional innovations, and further that the most successful ones tend to use a good source code, to which compatible and efficiency-enhancing institutions are added.

The paper by Allen, Berg, Jowett, Novak, and Potts proposes a more forward-looking institutional innovation for entrepreneurial cities. The main contention is that an intelligent city based on blockchain reasoning offers a superior alternative to currently popular "smart city" policies. The "smart-city approach" depends on centralized collection and analysis of big data, uses machine learning algorithms, and offers uniform solutions to heterogeneous residents. In contrast, blockchain technologies allow for decentralized creation of geocoded information and services, while protecting the privacy of individuals and organizations. They also provide opportunities for entrepreneurial discovery processes, whereby individuals can offer tradable services. One example among many is monitoring local production processes at the various stages of a supply chain.

6. CONCLUSIONS

Urban planning as it is conventionally practised tends to pay too little attention to underlying economic and political processes. In its crudest form, architects view the city as a canvas on which to paint an aesthetically pleasing image, while disregarding economic and political constraints. More economically liter-

ate planners are aware of some economic forces, such as the differences in trade-offs between space and accessibility across industries. They are then less likely to plan suburban high-rises, as in Soviet-era Moscow, or conversely to plan for agriculture in inner-city neighbourhoods as has happened in some Japanese cities.

But planning that cultivates creativity and innovation requires more insight. It then becomes necessary to understand the role of local knowledge and heterogeneous networks in entrepreneurial experimentation with novel land uses, local services, or product development. Such entrepreneurs must often harness various types of tacit knowledge with steep distance gradients. It also becomes necessary to understand how institutional structures enable or constrain entrepreneurial and other productive endeavours.

In many cities stringent zoning regulations and building codes have made it impossible to embark on many otherwise profitable ventures, as have taxes on productive activities or bans that tend to affect various small niche markets. An even more urgent problem in many cities is the unaffordability of housing, which makes it difficult to attract new residents. Potential new residents may then never arrive, even when they offer skills in great demand or when they have knowledge profiles that are suitable for entrepreneurial activities in a specific unaffordable location.

Affordability problems are often the result of stringent growth boundaries, minimum lot size requirements, or maximum floor area ratios. Such restrictions make the supply of housing less elastic, in some cases approaching perfect inelasticity. A higher price is then the only possible market response to an upward shift in demand.

The contributors to this special issue recognize the need for an urban planning approach that take into account the dynamic, entrepreneurial features of the market process as well as the role of institutions as cultivators or inhibitors of entrepreneurship with a spatial dimension. This ties in nicely with the idea of spontaneous orders, which is the main concern of *Cosmos + Taxis*. In a static perspective, cities function in predictable ways with more or less competitive markets. If these markets have features that resemble textbook models of supply and demand, then this would indeed justify a plan that spatially separates productive activities from one another. Reality, however, is more complex and dynamic.

With the intrinsically dynamic spontaneous-order approach, entrepreneurs attempt to break free from the zero or low profitability conditions that are typical of mature markets. Mature markets have tight system constraints, which limit producers' freedom of action as they struggle to break even. The only way to break free from the constraints is through innovative activities that consumers have a higher willingness to pay for than the opportunity costs of the inputs that the innovators use.

Entrepreneurs benefit from idiosyncratic local knowledge, which guides their perceptions and imaginations along spatiotemporally specific trajectories. Such trajectories are not only specific to localities and time periods; the "width" of a trajectory depends on indirect knowledge, that is, the knowledge of relevant others. These relevant others are not equally accessible from all points in space.

Cities that offer locations and institutions that support the generation of new ideas and innovations, and which provide reliable feedback about their quality, are more likely to become and stay economically competitive. This requires diverse land uses, diverse industries, and diverse people. And as Ikeda likes to remind us, it requires values that combine tolerance and a critical mindset.

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