Resumen: ¿Cómo serán las ciudades del futuro? Esta es una pregunta que no tiene una respuesta inequívoca. Las ciudades del futuro serán desarrolladas por personas que no han nacido aún o que no se dedican a la elaboración de las políticas de planificación urbana. Además, estas ciudades todavía no se han creado y se crearán gracias a un conocimiento que no existe aún hoy en día. Todo lo que podemos hacer es tratar de esbozar diferentes alternativas para la creación de las ciudades del futuro y las consecuencias de cada alternativa. Este trabajo pretende analizar los principales problemas causados por los modelos actuales de planificación urbana y sus resultados. Además vamos a tratar de explicar los diferentes marcos de política general utilizados para los espacios urbanos. Por último, se ofrecerán dos posibilidades de planeamiento urbano y las consecuencias económicas de cada alternativa. En esta parte final el autor analiza el alcance que se otorga a la creatividad humana y la cooperación social en cada caso.

Palabras clave: Ciudad, Conocimiento, Creatividad, Función Empresarial, Precios, Cálculo Económico, Especulación, Corrupción, Orden Cartesiano, Orden Espontáneo, Leyes Contractuales o desarrolladas, Ley Consuetudinaria y Planeamiento Urbano.

Clasificación JEL: R00, R40, R48, R50, R52, R58, K11, K12, K32.
Abstract: What will the cities of the future be like? This is a question that does not have an unequivocal response. The cities of the future will be developed by people who have not been born yet or who are not devoted to shaping urban planning policy and markets. Furthermore, these cities have not yet been created and will be created thanks to a knowledge that does not yet exist today. All we can do is try to draw along the general (alternative) guidelines according to which those future cities might be constructed and the consequences of every alternative. This work tries to analyze the main problems caused by today’s urban planning models and its results. Later we will try to explain the different general policy frameworks used to develop urban areas. Finally, we will offer a figure of the type of urban development and the economic consequences of every alternative. In this final step the author will analyze the scope that is granted to human creativity and social cooperation in each case.

Key words: City, knowledge, creativity, entrepreneurship, prices, economic calculation, speculation, corruption, cartesian order, spontaneous order, developed or contractual law, customary law and urban planning.

JEL Classification: R00, R40, R48, R50, R52, R58, K11, K12, K32.

I

INTRODUCTION

The main difference between primitive societies and the lifestyle which has been designated as civilised is that primitive societies did not inhabit in what today is defined as big urban agglomerations or cities (Hayek, 1959). However, civilised societies as we know them have evolved over time and will continue to do so. Today’s society has little in common with the civilisations of the past. That is why new definitions of society have emerged such as open society (Popper, 1945) or great society (Hayek, 1975).

Economic sciences considered society as a static entity until the publication in 1871 of Carl Menger’s work «Principles of Political Economy». Menger founded the Dynamic Economy School, commonly known as the Austrian School. However today’s society is everything but static, that is why the approaches used to study and understand it cannot be those of the past.
Although cities are the place where this dynamic or great society lives, this paper will show that they continue to be studied as if they were static. The approaches to study and plan cities are still those applied to mid-19th century expansion planning of Spanish cities (figure 1 shows Plan Castro in Madrid in 1860). Even though today’s planning and urban management techniques have certainly evolved since 1860, cities are still planned as if they were static, being drawn in a single bi-dimensional perspective in which what really matters is to lay out the alignment of roads and define the lots or the building density of the area being analysed or developed. Curiously enough, this static approach to city development did not even exist in medieval cities, which were limited by defensive walls. Until long after the beginning of the 19th century these cities did not grow beyond such limits (Fernández, 2004). In spite of these spatial boundaries, cities such as Madrid, Toledo or Barcelona showed a spontaneous growth that had nothing to do with the modern urbanism developed later on, hence the richness of urban alignments found in the Habsburg Dynasty’s Madrid, in Barcelona’s gothic town or inside Toledo’s wall.

Current cities —whatever their size— cannot be studied or planned in a static manner given that they are home to a constantly changing great society. Moreover, cities are themselves dynamic. We can no longer speak of cities as static entities or as if they were independent from one another. On the contrary, we must start to discuss, study and develop cities as if they were big cities.

This explains why we will attempt to describe below the different frameworks which may be used to study today’s big cities and the important role of human knowledge, creativity and entrepreneurship when coordinating and transforming a city.
1. The role of creativity

The shape of the future city is undoubtedly uncertain; nobody knows what it will be like or what type of society will live in it. That is why cities are as helplessly unpredictable as the human
being. The future form of cities remains wide open and it depends on the inherently creative human action.

The main economic and peaceful way to achieve harmonious transitions between today and tomorrow’s cities is, as we will try to show, the human coordination that arises from a free market system. Human action is a force capable of greatly reducing the uncertainties related to the evolution of a city by offering new solutions to the problems that constantly emerge in a developing city guided by profit and losses incentives. However, human creativity will never be able to completely get rid of the inevitable human unpredictability (Huerta de Soto, 1992). As we will see below, this happens mainly because the agents in charge of transforming and changing cities can only have access to the information available when making decisions on actions.

Given that human creativity is able to find new solutions and minimize uncertainties, the city’s map must be constantly changing and not paralysed as if it was static. This dynamic map would change every second due to the different actions delivered by human creativity to turn every new uncertainty (every new profit opportunity) into a gain, into a certainty.

2. Knowledge

There are two types of knowledge involved in city transformation processes: the first is technical or scientific, and the second is subjective or non-scientific.¹

The first type of knowledge is clearly centralised, well-known and easy to articulate. This knowledge is necessary to, for instance, dimension urban sanitation systems, determine the voltage needed for a neighbourhood’s lighting or to re-dimension the size of the structural elements of a building. This knowledge may be

¹ To learn more about the role of knowledge and its application to society see the articles «Economics and Knowledge» (1937) and «The Use of Knowledge in Society» (1945) by F.A. Hayek included in the book Individualism and Economic Order, Henry Regnery, Chicago (1972). It is also recommended to read the work by J. Huerta de Soto, Socialism, Economic Calculation and Entrepreneurship.
easily found in calculation textbooks of each specialised area-sanitation, lighting or structure measurement. Also, this knowledge can be easily transmitted from one person to another.

However, the second type of knowledge; subjective or non-scientific, is very different from the first. This type of knowledge or information is diffused and it directly depends on the goals of each individual being part of society. Eastern societies are certainly different from Western societies in the same way as individuals from one hemisphere and the other are different from the individuals around them. Hence this knowledge is completely subjective, because it depends on both, the individual’s temporary preferences and the information at the individual’s disposal at a certain moment of time. Furthermore, this type of knowledge is dispersed so, unlike scientific knowledge—which might be entirely centralised—this type cannot be obtained neither by the social scientist nor by the economic agent.

This knowledge is necessary to study, transform and develop cities. There are two characteristics that make this knowledge even more complex and difficult to use: it is tacit and ex-novo. Because it is tacit it cannot be articulated. Therefore, the only way to learn this type of knowledge is through trial and error mechanisms, i.e. through practice, as bike riding (Polanyi, 1969). Its second feature, being created ex-novo, further complicates the task of compiling information in order to organise it and centralise it within a superior body. Not only would it be impossible to apprehend all knowledge, which is subjective, tacit, disperse and unarticulated but also, most of this type of knowledge has not been created yet (Huerta de Soto, 1992).

The second type of knowledge described above- non-scientific knowledge- plays a fundamental role in the study, transformation and planning of cities. It is absolutely impossible to study or understand cities without apprehending this type of diffused and unarticulated information. As we will show below, this explains why this type of knowledge is an additional obstacle for those attempting to concentrate city planning in a centralised external body.
3. The essentially creative entrepreneurship

Entrepreneurship is human action itself (Huerta de Soto, 1992). Every human being is naturally an entrepreneur. «Entrepreneur» etymologically means he or she who takes action to reach specific objectives. This definition of entrepreneurship as an inherent quality of the human being is wider than it is usually used in colloquial terms. In the past decades this realistic approach has been developed and applied to economic theory (Kirzner, 1973, 1985 and 1979) (Huerta de Soto, 1992).

Entrepreneurship coincides with human action itself, human action being defined as all deliberate behaviour. The human being is driven by the pursuit of objectives that are valuable to him or her. This value is granted according to the subjective perception each agent has of his or her own objectives. Every human being has several objectives that are valued according to the importance he or she grants to each objective. The means is all he or she deems necessary to reach such goals. Finally, utility is the subjective appreciation each agent has for the means (Huerta de Soto, 2010).2

The means to pursue such objectives are by nature not easily available. If they were abundant they would not have any economic value and therefore there would be no economic problem to be analyzed. As Ludwig von Mises put it: «where man is not restrained by the insufficient quantity of things available, there is no need for any action» (Mises, 1966). That is why, as explained by Huerta de Soto, «ends and means are never given. On the contrary, they are the result of essential entrepreneurial action which consists precisely on creating, discovering or simply realizing which are the relevant ends and means for each actor on a specific circumstance in life» (Huerta de Soto, 2010). One of the most important features of entrepreneurship —if not the most important of all— is its creative essence.

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2 Regarding the concept of human action it is suggested to consult Ludwig von Mises' work entitled Human Action: A treatise on Economics, third revised edition, Henry Regnery Company, Chicago 1966. This work has been translated to Spanish by Joaquín Albiod and published in Spain as La Acción Humana, Tratado de Economía (10.ª ed. Unión Editorial, Madrid 2011).
In cities there are constant mismatches and opportunities to obtain profit. The human being is, by virtue of entrepreneurship, in charge of transforming and adapting the city to the constant changes taking place within society. Thus, the agents involved in the process of creating, transforming and expanding cities are not only the competent technical experts — such as architects, urban designers or planners, engineers, etc. — but also all the human beings who live temporarily or permanently in those cities.

III
DIFFERENT FRAMEWORKS FOR CITY DEVELOPMENT

1. Two types of orders

By «order» we may understand a situation in which multiple elements of different nature interact with each other in a manner that allows us to learn, through the apprehension of a spatial or temporary part of the whole set of interactions, how to create expectations on what may happen in other parts of the same set, or at least to do so with a high probability of success (Hayek, 1975).

Cities, as we know them, have a certain order and coherence. Otherwise they would be very hard to analyze, study or understand. The present work attempts to focus the debate on the opposition between constructed orders and spontaneous orders, without addressing all different orders which may exist in cities — such as organisational order, institutional order, proprietary order, spatial order or public domain order (Webster and Wai-Chung Lai, 2003).

Constructed orders are those created by forces which are alien to the system thus operating in an exogenous or artificial manner. This type of orders are included in Cartesian rationalist constructivism, created by René Descartes. The social and moral consequences of this type of rationalism were later developed by Thomas Hobbes (Espinas, 1925). For Descartes reason is the logical deduction of the explicit premises, hence for any action to
be considered as rational it must be determined as a well known and provable truth. That is why this type of order attempts to apply Cartesian principles in human beings (Laski, 1922).

We could speak of cities of constructed orders when referring to all those which are developed and transformed by means of an external centralised directing body. This body uses certain premises it considers as well-known and provable truths to establish a particular order in the city which is intended to fulfil particular objectives. This type of orders may also be designated as exogenous. Moreover, this artificial type of order needs to apprehend the city as a static entity to be able to know and prove the truth sought by its directing body.

On the contrary, spontaneous orders are those created through constant self-creation in an evolutionary and endogenous manner. This type of order is not necessarily complex, it can however reach such high levels of complexity that it may be hard for the human mind to understand. These orders are not determined by an external directing body which wants to impose its judgements (Hayek, 1975).

People are generally unable to bear the thought that there is an undeliberate order operating in cities, and so it is common to hear opinions among citizens and societies stating that economic chaos or disorder is the rule. The spontaneous order found in what we have defined above as the «Big or Great City» may not necessarily be delimited in a precise manner. Generally, within this type of order we may find cities which have a central position in relation to others and at the same time they will contain neighbourhoods or towns that will dominate over others.

Moreover new neighbourhoods and towns can emerge as a result of the interactions created between the different habitable units being part of an urban agglomeration. Finally, it must be pointed out that this type of order found in the «Big or Great City» would include countless orders or sub-orders which would exist in the various cities, neighbourhoods and towns that compose the «Big or Great City».
2. Today’s cities: Cartesian constructed order type of cities

Nowadays cities are being created and transformed within a Cartesian order framework. An external directing body approaches its study of the city as if it were a static entity. To do so it attempts to build the city from top to bottom. Firstly, the directing body establishes a series of laws of city planning; then it begins to design several plans going from the smaller-scale plans to the largest. Thus the city is constructed — as explained below— from top to bottom, following what will be defined as the city planning coercive pyramid (Figure 2).

![Figure 2: City Planning Coactive Pyramid](image)

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3 To elaborate the City Planning Coactive Pyramid we have studied the urban planning system of a few countries such as Germany, France, Spain, Netherlands, Italy, United Kingdom (UK), Switzerland or United States of America (USA). All of these countries have different urban laws as it is explained in the paper but not all of them have the same urban planning system but they are essentially as it is described in the City Planning Coactive Pyramid. For instances Germany, Netherlands and UK are the only countries which have national plans: Gesamtplannung/Fachplannung (Germany), Rijksplanologische/Kernbeslissigen (Netherlands) and Planning Policy Guidance (UK). All of these countries have federal or supra local city planning, local city planning and development planning as for example: Supra-local City Planning: Landesplannung/Landesentwicklungsplan (Germany), Schéma Directeur
On top of the pyramid we find urban planning laws. These laws set forth the statutes regulating private property of land. By doing so, the rights to use land are nationalized and the allocation of land is monopolised. This type of laws also regulate planning and development of land thus establishing which are the different planning models available, how they should be developed or managed and who will be in charge of implementing them. These laws also establish the different types or categories of land that will be delimited when planning. They also set urbanism standards such as maximum constructability, maximum density, minimum surface of land that must be reserved for green areas, infrastructure and equipment. Laws may therefore establish maximum constructability coefficients or maximum densities that must be respected by all levels found below in the coercive planning pyramid.

At the second step of the pyramid we find the supra-local city planning, which is usually regional and normally includes several

(continued)
urban agglomerations and cities. This sort of planning tends to protect land against urbanisation. It establishes maximum density levels equal or inferior to the levels established by city planning laws delivered by the upper level of the pyramid. Supra-local city planning also limits land extension and it establishes and defines the territorial infrastructures needed and where they should be placed. Figure 3 shows an example of this type of approach: the surface in dark colour within the region’s boundaries represents land protected from urbanisation.

**FIGURE 3**
DRAFT PLAN OF TERRITORY PLANNING FOR MADRID 1993 (IT WAS NEVER APPROVED)
Local city planning in charge of land management of a specific urban agglomeration or city is placed in the third level of the pyramid. This planning consists of determining the legal status of land and its use as well as establishing detailed management, maximum constructability and maximum densities in the different areas of the city and its extended surface. Figure 4 shows planning of this sort; the darker areas represent existing urban agglomerations, the clearer areas are land that has been declared as building surface and that will be constructed in the near future, and the areas in white are protected lands. This type of land planning cannot contradict plans or laws issued by the superior ranks on
the upper levels of the pyramid. Therefore, the land that has already been declared by supra-local planning as not suitable for building cannot be declared as building area by means of local planning, nor will it be able to establish urban and constructability densities which are higher than those determined by the two upper levels.

On the fourth level of the pyramid we find Development Planning. This planning establishes detailed land management on the areas previously determined by local planning and according to the parameters established therein —such as maximum constructability, land use, density, land reserved for open space, etc.— By means of highly detailed management, this type of planning may establish maximum building heights —as is the case for Spain—, maximum constructible depth, types of roofing, and maximum eaves and offsetting of buildings. In some cases, it may even establish the colour and carpentry of buildings.

At the bottom of the pyramid we find the building project, which must comply with all the specificities dictated by previous planning.

In figures 5 and 6 an example of development planning is shown together with its resulting urban form after the implementation of several construction projects. The image shows clearly how the buildings —even if different from each other— create a homogenous set due to the action of the top to bottom planning system we have described above.
3. The city of the future: spontaneous order type of city (dynamic urban planning)

In a spontaneous order framework the process of creation and transformation of the city is essentially regulated by entrepreneurship and its creative nature. Citizens not only influence the order developed in the city directly through entrepreneurship but they are also the main agents managing social or formal mismatches which may arise in the city.

As shown in Figure 7, several interconnected elements revolve around entrepreneurship and creativity to compose dynamic urban planning.
As we mentioned above, the agents involved in the dynamic transformation and creation processes of the city are all individuals who belong to Hayek’s Great Society. These individuals would be the true protagonists of the process, even if the technical experts are those providing specific solutions to specific problems by means of knowledge and creativity.

In the spontaneous order framework property rights should exist and be clearly defined. The importance of the existence and clear definition of property rights arise from its capacity to solve conflicts (in a decentralized manner) that may emerge throughout the dynamic creation process of a city. Where property rights are not clearly defined, conflicts on the use of urban resources are the direct consequence in a similar way as when other scarce resources do not have clearly defined property rights (Lepage, 1985).

Another argument for the need of clearly defined property rights are that without them, free-market prices are impossible. Prices are necessary to establish economic calculations. Market prices have the role of providing information to allow for adequate allocation of land use and land intensity (Pennington, 2002) at each moment of time and according to the needs of that moment. Thus, where land availability is short —and its utility very high— the market’s price structure will provide information that will help decision makers to allocate the land to the most urgent needs.

Planning in this type of order is contractual and thus generates a series of future plans as a result of the combination of free enterprise market and circumstantial needs. This prospective planning would serve as the structure of present and future city planning. These contracts would be legally binding, so if something were to be modified in the city it would have to comply with their terms. Otherwise the parties involved could either sign a new contract or —if the other party refused to do so— the right to implement the planned modifications can be bought to that party; providing that all previous contracts are respected.

Finally, in cities and societies alike general rules emerge over time as common practice. While these rules are to be respected, they also evolve through the resolutions reached by judicial
authorities to solve arising conflicts. Customary law is therefore another key element in the spontaneous order framework.

IV
CONSEQUENCES ON CITY PLANNING
AND ECONOMY OF EACH ALTERNATIVE

1. The consequences of the Cartesian order framework

The first problem facing the Cartesian order framework is knowledge. As we explained above there is a diffused and non-scientific type of knowledge that is crucial for the creation and transformation process of cities. This knowledge, besides being diffused, is often also tacit or unarticulated; therefore it is impossible for the directing body to know all the information necessary to reach adequate solutions for the city. This is why, given that information is incomplete or mistaken, certain unwise and thoughtless urban forms emerge from transformation processes developed within this framework. For instance, most of Spanish urban planners planned a number of new housing developments far greater than the ones actually demanded under the influence of projections that expected a continuous growth of the demand. Today we know that the information on which the plans were designed was wrong.

On the other hand, this type of knowledge is not limited; it creates new information and knowledge at every moment of time. Since the city is built from top to bottom —thus completely limiting creativity and establishing fixed parameters that must be respected the opportunities to discover new ways to develop cities through human entrepreneurship are hindered.

Another relevant consequence of the Cartesian order framework —and maybe the most relevant—is that given that land development rights are nationalised and land use allocation is monopolised by public administrations, there is little room for true private property rights, leaving only a sub-product named «property rights». It is important to point out that without private property it would be impossible to speak of societies, at least not of developed societies. That is why it should be stated that where
there are no private property rights we cannot speak of «developed» cities (De Soto, 2000).

The lack of property rights, as we have attempted to show above, creates a new problem, that is the lack of free market prices. Economic calculations cannot possibly be done without these prices (Mises, 1975). Through economic calculation these prices provide society with the information necessary to organise and establish compatible plans built on subjective priorities and needs of suppliers and consumers of urban resources at different moments in time. Therefore the information provided by calculations made with manipulated prices is mistaken and it provokes mismatching, disorder and lack of coordination in land use allocation and in the development process of cities implemented by directing bodies.

Another consequence of the lack of proper economic calculation is that since there is no free market price, structure destruction and squandering of natural resources increases (Anderson and Leal, 1991). Given the lack of correct information provided by free market prices there will be also a lack of knowledge in resource allocation and consequently irresponsible behaviours will arise.

Finally, another relevant problem resulting from this Cartesian-constructed order framework is speculation. Speculation has two sources: the first is independent and it allows supply to adjust to demand in the intertemporal dimension (economic speculation). Speculation consists of buying land when prices are expected to rise in the future. It is purchased when land is relatively cheap and later sold when it is most needed, thus helping to relieve the pressure of shortage over prices. In this way, speculators help to coordinate the development of cities guided by intertemporal estimated spreads. The second source of speculation, on the contrary, is induced by the different form of public

5 The original article by Ludwig von Mises was written in 1920 and it was originally titled *Die Wirtschaftsrechnung im sozialistischen Gemeinwesen*. It was published in *Archiv für Sozialwissenschaft und Sozialpolitik*, n. 47, pp. 106-121. The cited article was translated from its original version by S. Adler. For more information on Economic Calculation Debate read «Economic Calculation: The Austrian Contribution to Political Economy» by Peter Boettke.
intervention on the free use of land (political speculation). This type of speculation is alien to the economy. It consists of buying land at low prices, not because a future shortage of that type of land is expected, but because the buyer is convinced that the land will be granted a different legal status. Economic speculation has positive social effects whereas political speculation is clearly the ideal breeding ground for one of the most terrible curses of modern times: urban planning corruption. The framework described above addresses the first type of speculation whilst it fosters the second type with new doses of interventionism and discretion, thus enhancing corruption.

Avoiding economic speculation means upsetting the balance of the market and creating distance between supply and demand, consequently provoking serious trouble. On the contrary, to avoid the second type of speculation without eliminating intervention—which is the source of the problem—it is necessary to set forth the foundations for further interventions which may otherwise be likely to create lack of action coordination among economic agents and generate incentives to take advantage of future interventions through speculation. At the same time, this increase of speculation based on future political and administrative decisions further promotes political corruption in this domain.

2. Consequences in the spontaneous order framework

Among the consequences of the spontaneous order framework is the possibility to make economic calculations allowing for coordinated land use and land intensity allocation. The fact that there are private property rights and that they are respected allows for the existence of free market prices and consequently provides the possibility to determine in a more precise way what the most urgent needs are. Therefore the process of creation and transformation of cities would be operated through a free market price system.

Such a free market price structure would allow for very quick transformations in cities and territory depending on the needs, circumstances and situations (Wieser, 1909)—provided that
these changes occur at a slower pace given the relevance of time as an important aspect in urbanisation and construction planning processes.

Moreover, the possibility to make the economic calculations thanks to the free market price structure allows for proper allocation and compliance with property rights thus protecting and preserving natural resources for future generations. Therefore healthy or economic speculation described above should be permitted and political speculation and its resulting corruption should be eliminated.

Finally this type of spontaneous order by means of entrepreneurship and its creative essence would allow for the development of an initially non-scientific knowledge —later on scientific— that would develop new forms of cities that do not exist yet today because nobody has invented or even imagined them.

V

CONCLUSIONS: TWO FUTURE SCENARIOS

We cannot know what the cities of the future will be like because—among other reasons the people that will design and build those cities are probably not even born yet. We do know there are two possible scenarios with different consequences.

The current practices may continue, limiting entrepreneurship and creativity through the application of the coercive pyramidal system that builds cities from top to bottom within a rationalist Cartesian or constructivist philosophy. In such case, the inherent consequences of this system would be accepted as inevitable: impossibility to make economic calculations and its resulting lack of coordination, mismatches, destruction and squandering of natural resources, political speculation and its resulting corruption and lack of chances to create new forms of urban development.

Or, on the contrary, there could be a shift of direction and go toward a new framework based on human creativity and entrepreneurship as the fundamental axis allowing for economic calculation. Cities would be approached and apprehended in a
dynamic way, there would be healthy or economic speculation allowing cities to adapt and coordinate according to each moment’s most urgent needs. There would be no corruption and most importantly —creativity would offer the city of the future countless possibilities of form and functioning we cannot even imagine today.

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