

Speed Up, Slow Down or Both? Investigating the Contemporary Cities

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Abstract

Speed as a crucial phenomenon of modernism affects individual and collective life of human being and changes the traits of the places people live in. Increasing speed is the demand of the modern era, though on the other side in recent years there is a contrary incline towards slowing down different aspects of life. In view of this, the dualities in between social features of Speed up and slow down in current era is investigated in this paper and the interconnection of social and urban aspects is studied. This is obtained by analyzing the basic elements of speed included the space and time; two main modes of travel comprised of transportation and telecommunication; and the correlation between social and urban structure. Accordingly a paradoxical implication is derived from the factors relied on speed and slowness. Such standpoint is overviewed in a "balanced notion" in such a way that the positive sides of speed are accepted and the negative features ignored. Such analysis indicates the use of accelerated and creative technologies in a sustainable manner, as a result more time is saved in comparison to pre-modern eras and could be spent on different real and virtual activities. The balanced notion is regarded some regulations, educations, or policies to convince people to control over speed, do specified amount of essential activities per day and devote the rest time on social interactions in urban public spaces.

Keywords: Speed Up; Slow Down; Time and Space; Transportation and Telecommunication; Social and Urban Structure.

1. Introduction

Speed is a multidimensional term that dominates different aspects of life. It is not merely a sense of perception but it is also a concept, tool, or motivation of social life. Speed emerges as a matter of overcoming distances via transportation or the capability of distribution of data and information through telecommunication. Furthermore, it is the matter of mobility, perception of visual world, the construction of time, the synchronization of everyday life, a question of desire, and of how power organized in society (Millar & Schwartz, 1998: 17). Besides the social sides, the significance of speed at the core of modernism comes into view in cities. It is spatially the evolution of the city (Kellerman, 2006: 11) which has undergone a lot of accelerated and unwanted changes. Such alterations also intensified in virtual sphere. Hence both social and urban notions have been revealed a wide ranging speeding up of all kinds of activities, although in the context of current hasty community there is a contrary tendency towards slowing down different aspects of life.

The contradiction among speed up and slow down notions rooted in the concept of wave-particle duality of quantum mechanics. There are some analogies between the wave-particle effect and the emergent characteristics of social life: "Quantum reality has the potential to be both particle-like and wave-like. Particles are individuals, located and measurable in space and time. They are either here or

there, now and then. Waves are nonlocal, they are spread out across all space and time, and their instantaneous effects are everywhere. Waves extend themselves in every direction at once they overlap with other waves to form new realities." (Zohar & Marshall, 1994: 326). Such dualities based on quantum theory created the definition of instantaneous and simultaneous time which emphasized on an increase in sense of speed; on the contrary, glacial time emerges that resists instantaneous time and seeks to slow down everything (Urry, 2000). Hence the wave-particle dualities drives thoughts to the expression of incompatible potentials so that a matter becomes more like a wave or more like a particle but in certain ways like both together (Bohm, 1980: 163). This indicates the probability which an event occurs or not, so in recent social studies a paradoxical point of view towards "speeding up modernity" or "slowing down modernity" is emerged (Rosa, 2003; Gane, 2006; Honoré, 2009; Koepnick, 2014; Vostal, 2014, 2017). The appearance of these binary viewpoints in urban studies is rarely discussed, so this paper makes an attempt to correlate social and urban studies thoughts.

The present paper investigates the opposite notions of speed and slowness in social studies which is based on the alterations of the fundamental elements influenced on speed or have been affected by speed included space, time, transportation, telecommunication, and above all

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structures. Afterwards the emergence of speed in cities and the dualities among speed and slowness in urban design theories is investigated. Such studies reveal some paradoxical notions in terms of the related variables of speed. Ultimately a balanced notion is derived and analyzed.

2. Research Methodology

The aim of this basic study is to investigate speed as a noticeable but hidden characteristic of current society. Major researches on social and urban studies are collected via known databases including Google Scholar, Scopus, Science Direct and publishers including Elsevier, Springer, Sage publications, Taylor & Francis, Routledge, etc. Afterwards analyzing information according to available documentations is performed and a unified approach is derived based on the analyses.

3. The Social Features of Speed up and Slow Down

3.1 Speed up notions

Increased sense of speed in social life of modern man caused a new attitude and even a new science of speed as Virilio has termed it *dromology*. *Dromos* comes from the Greek and means race, and every society is a "race society" (Virilio, 1999: 14). Besides Virilio who admired speed as a dominant element of social life, McLuhan had added the concept of "electric speed" which represent a speeding up culture and that is the life on the speed of light. He emphasized on the "world not of wheels but of circuits" (McLuhan, 1964). These theorists may be the pioneers of a new movement based on speed.

Speed up trends influences the individual and collective life of modern man. This is argued by Urry in his thesis "global complexity", that in late modernity "people, machines, images, information, power, money, ideas and dangers are all travelling as bewildering speed in unexpected directions" (Urry, 2003: 2). Agger, in his thesis "fast capitalism" assesses the impact of ever-accelerating capitalism on book writing and reading, on work, on family, childhood, and the body (Agger, 2004: 4). Furthermore according to Robert Hassan, life in speed ages leave no time for reading, reflection and resistance, it even robs us of sleep (Wajzman, 2014: 25). Similar but more general is Rosa's conception that "the history of modernity seems to be characterized by a wide-ranging speed up of all kind of technological, economic, social, and cultural processes and by picking up of the general pace of life" (Rosa, 2003: 3). Thus the authority and power of speed is so intense that comprises a vast domain of life. The ability to comprehend different sides and control them all is the demand of the contemporary society.

Most social discussions on speed criticized the alterations of time and space as two fundamental factors of speed. The peak point of these transformations in speed ages is the dominance of time and the loss of space which is physically happening at the speed close to the speed of light. This is based on economical and political processes which have produced it and its perception is beyond our limited scope and pace of real daily lives but it is reflected

well in virtual experiences of each person. Marx's thesis in 19th century about the annihilation of space by time confirms the idea above. He mentioned when time is money then faster is better. Apart from Marx, Heidegger in 1950 predicted much of the speeding up of social life. He talks of the social shrinking of the distances of time and space because of the technologies like radio and TV which is abolishing remoteness and thus un-distancing humans and things (Urry, 2000: 125). David Harvey emphasized on capitalism as the motivated factor of speed up. He believed space appears to shrink to a global village of telecommunication and time horizons shorten to the point where the present is all there is, therefore we have to cope with the sense of compression of our spatial and temporal worlds. For him the spatial-temporal dynamism of capitalism is the notion that economic processes based on globalization and innovations in ICT are accelerating (Harvey, 1989). In addition to the ideas above, Castells propose the idea of timeless time as the dominant temporality of the society which given the characteristics of a given context namely the informational paradigm and the network society. This may take form of compressing the occurrence of phenomena, aiming at instantaneity or introducing random discontinuity in the sequence. Hence he focused attention on the new information age which the definitions of time and space changed to the space of flows and timeless time (Castells, 1996). Closed to such ideas is John Urry's conceptions. He believed various changes in the connections of time, space and technology have produced a speeded up instantaneous time. Instantaneous time means that the space-time paths of individuals are often desynchronized. It is beyond the feasible realm of human consciousness (Urry, 2000). Robert Hassan indicated on two empires of speed on the basis of changes in time from "clock time"; as the dominant temporal relation in the industrializing world associated with capitalism, modernity and Enlightenment thought, to the "network time" rose up from the proliferation of digital networks that made pure speed and colonized all the realms of life. This is accompanied by neoliberal globalization and the revolution in ICT (Hassan, 2009). Hence the conceptions above hinted some changes on time as the dominant element of social life, it emphasized the speed up culture based on telecommunications which have shrunk the globe, and stated some relational factors as causes and effects of the speed up culture formed in the latter century.

The importance of time and space in media as a constitutive power in constructing and maintaining a society and instituting a social order is demonstrated well in the investigations of Innis. According to him, time-oriented media promote means of social organizations which are decentralized involving more dispersed centers of power. In each of these centers of power the administrative hierarchy is more direct from up-down. By contrast media that emphasize space favor centralization and less hierarchy. Centralization means co-ordination over a large area (Innis, 2007) Hence the supremacy of time caused a dispersed and fragmented social structure as it is revealed in the information age. On the contrary,

space is human based and makes a centripetal organization so that a down-up direction disclosed. Accordingly a comprehensive view can be extracted out as space forms a more static configuration and time makes explicit a dynamic system.

Control over space and time could be obtained by transportation and telecommunication devices as speed up equipments. Hence different modes of travel which have risen particularly since industrial revolution like trains, bicycles, cars, buses and airplanes make the space much more accessible. On the other side the initial telecommunication devices like telegraph and telephone and the advanced tools like computers, internet and smart mobile phones caused the information revolution by making possibility to move in time, be instant and live in the simultaneous and parallel globe.

There is some interrelation between two dominant aspects of speed including transportation and telecommunication. Use of ICT can substitute, stimulate, supplement, redistribute, improve the efficiency, enrich, or indirectly affect travel (Lyons, 2015: 11). So there is a complex interaction between both variables. Some enhances virtual speed and some weakens its dominance. The deterministic view reveals the absolute substitute and dominance of telecommunication and virtual life on transportation and physical life which provides speed in its maximum limit but it is not a realistic approach.

The real and virtual speed mentioned above, constitute a system which has a profound impact on social organizations. According to Francois Ascher, the social fields are different in nature and an individual participation in each will vary in duration and motivation. The interactions may be economic, cultural, emotional, reciprocal, hierarchical, conventional, face to face, written, spoken, telecommunicational, etc. the fields also vary in scale from local to global and in openness. The networks that structure these fields can take the form of stars, webs and hierarchies. There is an also unequal access to these social fields so this switch of people between networks, social universes, real and virtual methods is called a hypertext society (Ascher, 2007: 38), which is the result of speed up culture. The dualities in between real and virtual speed and its effects on social structure is also investigated and analyzed in McLuhan's conception. Real speed creates center-margin structure, produces division of functions, and of social classes, and of knowledge while electric speed dissolves this structure by creating centers everywhere, mixes the past and present and make an organic whole (McLuhan, 1964). The influence of speed in social structures could be followed nearly the same in urban structures too.

Consequently Speed as a product of modernity, has expanded its role in all the domains of social life. In this era speed in its maximum range is demanded. This caused the autocratic and deterministic views of overcoming time on space, telecommunication on transportation and so on.

3.2 Slow down notions

Slowness in modernist views became largely denigrated as both anti-progressive and anti-aesthetic. To go slow

was to resist modernist categorical quest for newness. It was a sad remnant of pre-industrial longings and sentiments; something against the modern sense of temporal contingency and indeterminacy; it blocks the progressive social affairs and quells the seeds of individual change and liberation (Koepnick, 2014). This viewpoint explicit the widespread human desires to reorganize and reshape different aspects of life in an ever-quickening direction. The peak point of this thought goes back to the beginning of the 20th century in futurist movement which emphasized on beauty of speed. So the slowness was denied in all its sides and it stands on the contradictory side of the speed.

As societies accelerated more and more by new forms of technologies, many negative points of speed up life revealed. On that account the progressing quest for speed becomes a pathology. This is mentioned in social theorist's critics of the race society especially in the last decades of the 20th century. Actually speed as a modern and capitalist imperative caused excessively negative consequences for the environment, health, self determination, individual autonomy, democracy, intellectual pursuits and social production. It generates accounts for an unprecedented moment in history due to its negative, regressive and inhuman effects (Agger, 1989, 2004; Hassan, 2003, 2009, 2012 cited in Vostal, 2014: 97). Honore is a pioneer in criticism of accelerated world. He praises slowness in different aspects of life including foods, cities, mind/body, medicine, work, leisure and children (Honore, 2009). Another critic of the speed up life; Hartmut Rosa, believed that under the hyper-dynamic surface of late modern societies there might lie social forms of inertia and freeze (Rosa, 2010, 2009 cited in Vostal, 2014). According to Tomlinson some signs of dissatisfaction with the pace of life in developed industrial societies are to be found in the so-called "slow movement". The most well-established and high-profile ones are the slow food and the slow cities movement. He stated that the slow movement can in any direct way challenge the institutional grip of the condition of immediacy and as we reject inevitabilism then exploring and cultivating such values to be worthwhile (Tomlinson, 2007). The notion of slow down is best described in Urry's categories of time: "glacial time". It resists instantaneous time and seeks to slow down time to nature's speed hence its condition significantly impacts upon the "environment". It involves the relating of processes within their context and imagining what will happen over many generations (Urry, 2000). Therefore slowness appeared to withstand the absolute empire of speed in all the spheres of life. It is referred to nature and it's maintenance, as the initial settlement of human being. There is a distinction between this implication of slowness with the previous modern one. Slowness here is not in opposite side of speed. There is a duality in between both terms and each individual notion is incomplete. A unified Whole is made just when both are accompanied.

Slowness generally draws attention to space which triumph over time. This is a particular kind of space that Virilio calls "geographical space". This space is that

which keeps everything from occupying the same place. It does not connect, it divides, promoting separation and isolation. It is substantial and material and possesses volume, mass, density, extension, gravity and weight. It is coupled with a particular form of time: "extensive, historical time". It is the time that lasts, is portioned out, organized and developed. It represents a dependent variable with respect to space so it is thought directly in spatial concepts hence Virilio often speaks of space-time dispositive" which belongs to a limited, metabolic speed. "The speed of the living" (Breuer, 2009: 216-7). This conception mentions the era which the dominance of machines over human being had not occurred. The importance of this thought is not to follow the past but to find some principals from the nature oriented world that would enter in contemporary era and diminish the side effects of this race society.

There is a contradiction in the definition of speed up which produces the notion of slow down. As some aspects of life are accelerating, others may not be and could even experience deceleration. The proof of this concept is that if technological acceleration means that less time is needed, this should entail an increase in free time, which in turn could slow down the pace of life (Wajcman, 2014: 16). This paradoxical notion is declared well in both transportation and telecommunication outlooks. Virilio's dromological law stated that the increase in speed increases the potential for gridlock; at the other side he recognizes that the electronic capacity to be both here and elsewhere in the time of nowhere has brought the body to a standstill (Ibid: 23-4). So this is a duality occurred in modern era in all the features of life as Castells stated the contradictory dynamics of society opposes the search for human eternity, through the annihilation of time in life, to the realization of cosmological eternity, through the respect of glacial time (Castells, 1996:499). This definition expresses the opposite sides of time coexisted in the current era. The contradiction mentioned even appeared in the definition of slowness as it is stated by Carl Honore that "despite the name, it is not about showing the whole world down to crawl. The aim is to do everything at the right speed: sometimes fast, sometimes slow, sometimes in between." also an articulate group, slow-London, insists "slow is not a rebellion against technology or modernity. Slow is a positive activity with a quality of balance and measurement" (Tomlinson, 2007). So a well-balanced, equitable system between speed and slowness is the demand of contemporary era. Such attitude is highlighted in recent years as Innis introduces the notion of "balance" to suggest that a society is most successful when it is based not upon one predominant medium of communication but upon a combination of several media which orient towards competing biases of space and time (Innis, 2007). Another approach called "modernist slowness" clarified the fact that the goal is not to abandon the speed of modern life or to bund the future back to the past. Rather it was to define mobility as a form of communication and interrelation able to sharpen the subject's perception of the present; a present constituted by the concurrence of multiple pasts and futures

(Koepnick, 2014: 20). Consequently the present society should afford different ranges of mobility and speed, in addition multi-mobility, multi-speed alternatives in different features of life is expected because the world today has the binary characteristics of acceleration-deceleration, instantaneous time-glacial time, mobility-inertia and so on, hence this may be the respond of the current dilemma.

4. The Correlation Between Speed up and Slow Down Notions in Urban Scene

4.1 The emergence of speed in cities

Besides the influence of speed in different aspects of people lives which is called "social speed", there is another sense of speed which is unveiled in human settlements. This could be called "physical speed". Also another notion of speed in current era based on computer technologies named "virtual speed" appeared. In followings the interdependencies of speed and cities are mentioned. According to Tomlinson, If the antithesis between a fast and a slow pace of life maps broadly on to the urban-rural divide this is because city life is typically modern life, so the city is the place where the capitalist enterprise, machine industrialism, the concentration of populations and the energy of their everyday activities, the traffic of crowds and vehicles are all coming together (Tomlinson, 2007: 32). In addition urbanization as a feature of the industrial era helped quicken the pace. Cities have always attracted energetic and dynamic people but urban life itself acts as a giant particle accelerator (Honore, 2009: 24). In addition, Le Corbusier is utterly convinced of the need to re-construct the great cities to meet the challenge of "the machine age". The crux of this challenge is speed. He mentioned the pleasure of being in the center of power of speed (le Corbusier, 1971). Therefore an important characteristic of the metropolitan landscape is the mobility of its habitants who utilize multiple modes at different speeds (Ascher, 2007: 36), so the city itself is a dynamic system which presides over the agents who are its citizens.

According to historical overviews, speed in two aspects of transportation and telecommunication technologies played an important role in cities evolution. Such technologies changed the former urban infrastructures as well as the image of the city. A brief overview of the contemporary urban design theories reveal the dominant speed up and slow down attitudes.

4.2 Speed up notions in urban design theories: towards decentralization; from industrial revolution to modern age

The evolution of urban streets during communication ages is the symbol of emergence of new mode of transport and physical speed in cities. This is almost the main reason of changes in the structure of cities. The first dominant changes to restructure urban streets and alleys began in Rome at the end of 16th century with new avenues linking churches to allow for the flow of religious processions (Gandelsonas, 2008). These changes were restricted until

the industrial revolution which brought out new communication tools; railways, urban trains and underground trains (Brown et al., 2009), which spread out new suburbs, made new ages of decentralization and started the first dominant speed up alterations in cities. The peak point of these structural changes started in the late 19th century in "city beautiful movement". According to this movement, direct streets as a symbol of order and speed covered the whole city and the urban plan was filled up by the grids but the crisscross streets cut this structure. These streets connected two major points in the city, speeded up the communications and expanded visual corridors (Bahrainy et al., 2011:51). Moreover at the end of 19th century, theoretical approaches towards urban structures emerged. Some critiques toward the growth of cities in organic, disordered formation and down-up attitude caused to set up idealistic conceptions so that utopians tend to plan and manage the cities in an ordered, geometrical, up-down approach. These ideas include Ebenezer Howards garden city in 1898, Arturo Soria y Mata ciudad lineal in 1892, LeCorbusiers techno-elit skyscraper cities of the 1920's-1930's and Frank Loyd Wright radically decentralized broadacre city proposal of 1935. Such conceptions particularly focused on speed up notions. These attitudes appeared in modernism especially in the 4th congress of CIAM which noticed transportation besides the other three guidelines included dwelling, working and recreation. The speed up notions is affirmed in its declarations by emphasizing on increasing street widths and requirements according to new modes of transportations like automobiles. Hence it is revealed that modern cities or what is called metropolis, appreciated speed and automobility. Cars changed different aspects of modern lives and revolutionized the world. It helped to create what many regarded as a utopia of prosperity, independence and spatial freedom in the first half of the 20th century (LeGates & Stout, 2015) the promotion of the dominance of the car in the mid 20th century established a new paradigm. The physical spatial city was altered: old downtowns were radically transformed to the rapidly expanding suburbs that soon surpassed downtowns in size (Gandelsonas, 2008). So automobiles as private transportations formed the second age of decentralization after the first one occurred by trains. On the other side information technologies like telephone in the beginning of 20th century generated more possibilities for mobility and speed because of the facility it is made for more personal and professional relations and meetings between people (Ascher, 2007: 36).

Followed by disclosing the side effects of the authorized modern notions, some urban design theorists and movements made an attempt to alleviate the side effects and look forward to new principles.

4.3 Slow down notions in urban design theories: towards recentralization; from post modern age until now

The pedestrian small-scaled mono-centered cities rooted in pre-industrial eras which transportation and telecommunication technologies were not mass-produced so the pure slow unhurried life was dominant. This natural

human life was denied during two centuries authority of industrialism and modernism but it was once more considered in the second half of 20th century.

The machine-based conceptions of modernism besides its anti-social, anti-cultural attitudes made many critics. According to Jose' Luis Sert who established urban designing as a *métier*, the urban designer should notice to humanity and cultural aspects of cities. The process required is not decentralization but it is recentralization (Brown et al., 2009). This was the beginning of a paradigm which diminished the speed up attitudes. Sert was influenced by a group named Team 10 who redefined the city as a living organism and mentioned the world as non-hierarchical, polycentric and coherently linked through reciprocal relations. Such attitudes also attempt to reconcile the specific place and the universal space (Smithson, 1982). These ideas were a shift from formal modernism to critical post modernism (Pedret, 2001) Hence post modernism emerged as a reaction to modernism side effects. It filled out different spheres like urbanism. The post modern urbanism focused on organic and collaborative guidelines for cities development plans, the small scaled plans, pedestrian perception, down-up outlook in urban structures as mentioned by Jane Jacobs (1961) and Christopher Alexander (1965) and duality in between elements in cities declared by Robert Venturi (1977) (Bahrainy, 1999; Bahrainy et al., 2011; Shoorche, 2013). Investigating slowness in physical urban spaces is mentioned in other urban design movements for instance sustainability and smart growth, traditionalism, urban village and new urbanism that focused on priority of pedestrian mobility, public transportation in cities, high densities, mixed land uses and participatory designing (Brown et al., 2009; Bahrainy et al., 2011). This is a down-up attitude which is promoting the slow down culture. Therefore, urbanity emerges in dense areas which different social groups slow down, mix and interact on a face to face basis.

Besides the physical space, there is another form of space named "virtual space" that has taken shape recently, therefore the present city is in duality between the electronic "space of flows" and the physical "space of places" and this new binary urban geography is nothing less than a revolutionary development in the history of humanity (Castells, 1996). This caused the creation of new definitions of cities for instance "world city", "dual city", "hybrid city" and the "cyber city" (Dear & Flusty, 1998). So instead of the ordered, hierarchical and cohesive structure of the modern city; the complex, dual city of current epoch is made up of a discontinuous, unarticulated urban growth of polycentric, intensively networked urban regions (Polo, 1994 cited in Graham & Marvin, 2001). Hence a fragmental multidimensional city is the result of the variety of processes in current era.

As a matter of fact the contradictory notions in this accelerated era, is revealed in different urban aspects included space; time; transportation; telecommunication; structures. The dualities which have taken shape in this binary speed-slowness sphere are discussed in the present

paper and a solution is investigated in order to obtain a balanced point.

4.4. Speed up and slow down: a discussion on paradoxes; searching for a "balanced notion" in contemporary cities

According to speed up notions the significance of time in comparison with space is revealed. This is almost occurred during the ages of speed in both physical and virtual sphere. The physical speed via both technologies (different modes of transport especially the private transportation like automobile) and infrastructures (streets, highways, etc.) in cities created this opportunity for human being to reach their destination as soon as possible. In this era, the work-home distance was the main requested travel path and travel time of passengers. Besides different aspects of time; new spaces of mobility, transit, and passage took shape (airports, stations, etc.). These are mostly undetailed, broad, and general spaces which tend to reduce our contact with the urban fabric. In this age, high rise buildings set within movement networks, allowing one to experience space while moving around the buildings so the vast open space take form as it is called "Lost spaces" (Trancik, 1986). Also some new forms of contemporary public spaces generated for instance neglected spaces (both physically or in the face of market forces), Invaded spaces (usually via cars), consumption spaces, segregated spaces and so on (Carmona, 2015: 374). This accelerated metropolis experienced the center-periphery structure, hubs- spokes model of urban organization, polarized-dispersed directions. On the other side; regarding to virtual speed and formation of virtual cities, new definitions of simultaneous time, instantaneous time (related to speed of light), timeless time, etc. is indicated and the annihilation of space and physical cities in a rigid attitude is considered. But this is not the whole attitudes toward the impacts of speed.

There is another viewpoint in the notion of speed and its relative inclines like space, time, transportation, telecommunication, and structure; which explicit the paradox of each issue in slow formation. This is the conception which is discussable in urban studies as well as social sciences and its verification is almost intensified in the current complex era.

Time and Space paradoxes: By quickening the world via faster movements, the saving times could be utilized in optional activities. This is mostly allocated to recreation activities _one of the guidelines of 4th congress of C.I.A.M which was restricted during the physical speed ages_ this caused the configuration of leisure time (depended on each individual's interests the mentioned time spends on physical or virtual domains) and leisure spaces (new spaces included leisure parks, play stores, shopping malls, cafes, etc.) in cities; so new social activities have been formed which is occurred particularly on unmoved and static locations so such places is focused on slowness and it is in opposite sides of enthusiasm of speed in modern era. Hence in order to achieve an integrated unified approach, the combination of physical space with its social dimensions in addition to the aspect

of time is considered. Such an urban space would be a place that could often captivate the mental and physical ideals of individuals.

Transportation paradoxes: Regarding to increasing physical speed via technical solutions, more and more automobiles produced; on the other side the networks capacity multiplied but still the traffic dilemma existed. Hence speed highlighted; on the contrary, congestion brought into existence. This is the paradoxical feature of physical speed. So the solution might be the decline of congestion which could be achieved in different conditions: making drivers pay for use; pricing of roads, fuel and parking (downs, 2000); reducing auto dependency (through changing land use configuration so that transit become more attractive alternative); transportation system management (through traffic light timing or ramping signals); transportation demand management (through reducing the number of autos on the road during peak hours, telecommuting, etc.) (Hodge, 1992). Among these approaches, reducing auto dependency via changing land use configuration is utilized in contemporary urban designing movements including sustainability which is resisted the dominant philosophy of speed and appreciated slowness as an efficient response. According to key parameters of sustainable city, the limited population, medium densities, mixed use developments and the accessibility of public transport is considered. Also other significant notions of reducing speed in such sustainable cities included reducing the need to travel (via substitution of ICT), emphasize on shorter distances and reducing the length of trips (through the proximities of land uses and emphasizing on localism), facilitating the accessibility of active modes of travel for instance pedestrians, cyclists, etc. (Banister, 2008; Banister, 2011). So besides different changes in form of the city, the sustainable paradigm is looking for some changes in individual and collective behavior of people, against the rigid modern attitudes in one side and towards the potentials of sustainability for human being and environment on the other side. This could be through some authorized traffic regulations (pricing of facilities, taxes, penalties for offenders, etc.) or via cultural education (advertising, social pressure, emphasizing on social unity, etc.) and even appreciating the positive optional decisions of people in using clean and efficient vehicles, more healthy activities, saving the ecosystem, etc. This could be called sustainable manner.

ICT paradoxes: Based on softer technologies of media and communication systems new possibilities of interaction in different social groups facilitated. But this is a different social interaction via virtual environment and the only capability needed is the ability to read or write some texts. There is a paradox inside this notion. At one side a rapid communication in virtual sphere without the need of presence in a specified location is formed, on the other side the user is sitting or standing in front of his or her screen and exchanges the information. Even when she or he moves its speed is incomparable with the speed of telecommunication devices so speed up emerges in versus of slow down. In addition, in virtual sphere, anything that

cannot be digitally stored will be worth much so face to face communications reappear and the five human senses (touching, smelling, tasting, hearing, seeing) find the multiplied value so the significance of urban spaces is in emphasize on slowness and unrushed desires at the peak of the speedy age of telecommunications. So it should be a balanced outlook in utilizing the distant communications. This equilibrium would be on decreasing the congestion of cities by omitting some extra travels, also organizing ICT in different contexts including security, health, education, commerce, banking, urban management, etc.

After investigating the paradoxical aspects of variables of speed and slowness in urban domain, it is possible to look over its basic definitions in architecture and urbanism in order to find out the elementary geometrical forms of each term and finding out its applications in the structure of cities.

Paradoxes in basic forms and urban structures:

Slowness in its optimum point emphasized on static situation which, in terms of psychological forces is centripetal. In Gordon Cullen's notion the emphasis is upon "hereness", it can be perceived as totalities. On the other hand dynamic situations are inductive, suggested usually goal oriented movement and "thereness" predominates (Smith, 1974). According to Frederick in his book "101 things I learned in Architecture school" is defining and comparing static and dynamic composition. He stated a static composition appears to be at rest. It is symmetrical also it suggests power, firmness, conviction, certainty, authority and permanence. On the contrary, a dynamic composition encourages the eye to explore. It is asymmetrical. It suggests activity, excitement, movement, flow, aggression and conflict (Frederick, 2007: 88-90). The emergence of the static and dynamic composition in cities is in the form of streets as dynamic spaces with a sense of movement and squares as static spaces with less sense of movement (Carmona at al., 2003). Hence, the speed up features as dynamic situations appeared in form

making a multi-sensory experiences (Castells, 1996); So lived experiences, perceivable places, and possibility of gathering together to make a community becomes once more remarkable. This is a paradoxical notion that of continuous, straight, and linear corridors so that the rapid vehicles (As it is designed in special lines in cities for the use of direct public transportations for instance metro, B.R.T.) could cover the maximum space in minimum time. On the contrary slowness is focusing on static situations and comes into view in centric forms which is mostly emerges in squares, civic open spaces in cities, and even some intersections. The essence of such urban spaces is based on inertia so the presence of pedestrians intensifies. Accordingly, regarding to such notions, the axis represents speed and the center stand for the structure of cities. The combination of the main access streets and the main activity centers constitute city's structure. This center-axis duality makes an inertia-dynamic balance in the city. In such a structure, a balanced movement of pedestrian and vehicles is required. This could be occurred by facilitating the presence of pedestrians in cities via making a continuous pedestrian network which both centers (C.B.D, public spaces, etc.) and axes (especially accessible streets) merged. On the other side the use of vehicles limited to arterials and main mobility streets and transiting people left to public transportations. In table 2 the speed up and slow down forms is compared. Besides transportation that affected directly on the physical structure of the city, telecommunication as a new mode of connecting to people played an important role in city's transformation. As Krugman have explained the growth of cities and the concentration of activities promote the development of transportation and telecommunications in mutually reinforcing ways (Ascher, 2007).

According to above discussions, the balanced notions of speed up and slow down in contemporary cities is summed up and displayed in the figure 1.

Table 1
The speed up and slow down forms

Slow down basic forms	Slow down basic forms	Speed up city models	Speed up city models
Focused on "axis or straight line" in three forms of horizontal, vertical or oblique (rectangular)	Focused on "nodes or centers": circular or squarely	Linear	Mono-centric
Directed lines not fragmented or curved	Centripetal orientations	Star-shaped or radial	Hierarchical or satellite form
Limitless in length	Limited in size		Network or grid
Goal oriented	Path oriented		Dense and dispersed
Required maximum axes and minimum nodes: decentralized	Required maximum nodes and minimum axes: centralized		Polycentric
the structure of cities is consisted of main axes(speed up features) and nodes(slow down features)			

According to fig. 1, an analysis between three effective parameters in the present speed epoch is considered. As a definite society (citizens) go through speed up traits; by the mass production of transportation and telecommunication modes, more space is covered in less time. Hence, people could gain more time to do more activities. While speed is increased, more and more activities performed in a day and less social interactions happened. In an extremist way; like the modern, up-down urban planner's conception of Arturo Soria y Mata ciudad lineal in 1892 or Frank Loyd Wright radically decentralized broad-acre city proposal of 1935, the machinery function of both people and the city is dominant. So the structure of the city is based on rapid transit axis and minimum nodes and hubs are required. On the contrary, the ancient cities particularly before speed ages were pedestrian-oriented, and the size of cities were limited. Therefore, the social interaction was in the highest level although the activities performed each day was much less than present era. The down-up attitude, shaped the individual-centered structure of cities with the maximum presence of people in public spaces so the human-oriented space took shape. The binary viewpoints mentioned, is a peak-point situation but finding out the locus of contemporary city in this figure is essential. Although the present city is neither the entirely speeded up, axes-oriented, and machinery functioned habitat nor the absolutely slowed down, mono-centered, and human based settlement; it is vastly influenced by the large expansion of transportation and telecommunication technologies which caused the general dominance of speed over slowness. In order to make a balance between speed up and slow down trends and specify the proper situation of present city, finding out the social, political, economical and cultural attitudes of each society is crucial, in addition three factors play an important role in this context:

- People: The contemporary life is due to choices not necessities. While people use speed up modes both in real

and virtual form, they gain more time. It is up to each person to use the extra time to do more individual activities or to spend it in social interactions in different public spaces.

- Government: Here the role of government is to educate people in this notion that speed is limitless and People have to quit their large amount of activities to spend it in human-oriented interrelations and discard living like a machine. Also government can involve people in different projects in participation method. This down to up attitude could diminish the hasty and authorized views. It would form places maintained by people demands so the presence of people intensified.

- Specialists (urban planners and urban designers): specialists should limit the confines of speed. Although new technologies caused the maximum access and rapidness, specialists should inform people not to follow the merely speed up trends. Also, planning and designing a balanced structure both in axis and nodes should be required. The focus should be on pedestrian movement and social interactions along movement corridors, crossing nodes, interactive hubs and livable urban cores although the need of fast transit arteries in cities is unavoidable. Hence, the outlook is not to omit transportation modes specifically automobile or quit using the speed up telecommunication tools like mobiles. The aim is to gain time from speed up devices to get through social interactions.

Consequently a balanced metropolis is required the dual demand of the society; technologized and speed up, human-oriented and slow down. The mentioned metropolis limited by specialists and government are designed for specific range of speed, activity and social interaction as it is seen in gray color in fig. 1. It should be noted that specifying the exact above mentioned characteristics of each city is regarded to people, the government and the specialist's desires and their social, political, economical and cultural basis.

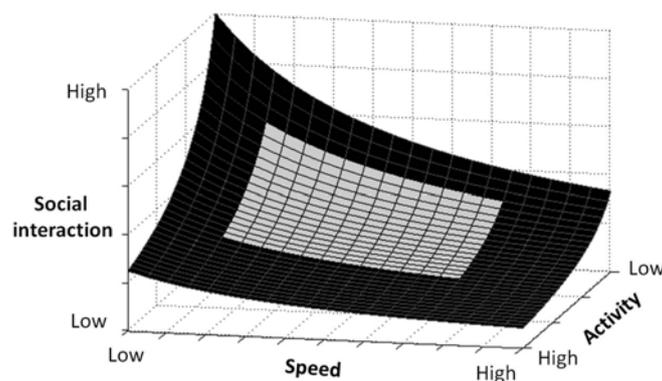


Fig. 1. The schematic relation between speed, activity and social interaction in contemporary cities

5. Conclusion

In the present paper, speed up-slow down dualities in social and urban thoughts among the related factors of speed included space, time, transportation,

telecommunication and structure is studied. The present investigation reveals dualities such as presiding time as a dynamic system against dominating space as a static configuration, decentralized and up-down organizations versus centralized and down-up structures, emphasizing

on telecommunication and the empire of time (Life on the speed of light) against transportation and the friction of distance and space (life on physical speed), spending time on travel as an essential activity opposed to time devoted to leisure as an optional activity, dynamic and undetailed spaces (the passing is carried out to reach the destination) in contrast to static and detailed spaces (the presence of people in space is happening), physical speedy travels versus gridlocks and congestion, also virtual speedy life against standstill and face to face communications.

According to such paradoxes in the present age, a "balanced notion" is required to integrate and unified social organization and urban structure. This balanced attitude merges speed and slowness as two essential need of modern man. In view of this, the combination of travel time as a result of current rapid technologies, and the leisure time as an outcome of the time saved via new technologies, also dynamic rapid spaces accompanied with static slow spaces is demanded. In addition the interaction of transportation and telecommunication in a sustainable manner should be considered to reach the balanced notion. Besides, a contemporary urban structure consists of main axes as speed up features and principal nodes as slow down attributes make a unified whole; particularly when the ranges of speed through transportation and telecommunication aspects in dynamic spaces, activities done per day, and social interactions inside static spaces are in balanced. This is possible when the three items of people, government and specialists make the triangle sides. Hence the contemporary city and its citizens would receive the advantages of both speed up and slow down features simultaneously. Such discussions could be followed by the detailed characteristics of dynamic and static urban spaces in a definite context.

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