INTRODUCING A NEW PARADIGM IN URBAN PLANNING THROUGH INTEGRATION OF RESILIENCE AND CRITICAL THEORY TO INCREASE FEASIBILITY OF URBAN RESILIENCE

INTRODUCTION

The city is the most complex and common social-environmental system which has been formed by humans, and it has always encountered different dangers and damages. In most cases, cities' vulnerability is due to repetitive occurrence of different undesirable incidents (natural and unnatural) which leads to lots of economic, social and cultural damages. Since future natural and unnatural catastrophes are unpredictable and we cannot predict their mode, size or location; these days, the concept of resilience has been proposed to strengthen societies through their potentials. There exists different definitions, methods, indexes and measurement models relating to this concept. Although this concept is complete, simple and cohesive, its definition and using it as a universal concept face some criticism. Studies show that there are various, ambiguous and even contradictory definitions for this concept, this fact limits its practicality and feasibility (CRITICAL INFRASTRUCTURE RESILIENCE, 2018).

In general, there is a gap between practice and theory regarding the concept of resilience; the results and implications of resilience through a complex sets of actions to create resilience in urban systems show that there are many problems for implementing and practicing the actions in this field. The important question here is: are contemporary cities and their various societies capable of facing various challenges and uncertainties? and more important is that whether the present paradigm of urbanism can guide cities and societies from a vulnerable situation towards a resilient one? This study seeks to depict that, first: urban resilience could not show its efficiency and practicality till now, in other words despite all attention and interest that this issue gets, few formulated systematic rules exist about resilience which are practical and can be used to achieve resilience; second: during recent months, COVID-19 pandemic destroys economy, social structures, normal lifestyle and stops movement in both large and micro scale; this fact shows that the present professional knowledge cannot answer the new incidents and problems.

In this matter, we need to have another concept alongside of urban resilience. A concept which can overcome the duality of theory and practice, and can lead to a desirable and efficient urban development with the aid of evaluation and increasing in human freedom and communicative action, and using a pragmatic plan which is based on knowing environmental uncertainty and new problems and also limited capacity of the cities. Since resilience theory only introduces the content or product and it ignores the process of achieving this product; integrating this theory with critical theory, as a procedural element, by using pragmatical and cooperative approaches can create a new paradigm in urban planning. This paradigm can promote the feasibility of resilience and deal with emerging problems. The outcomes of this new paradigm should be reflected in every fields of our profession, i.e. education, research and practice.

THEORETICAL BASICS AND LITERATURE REVIEW

Resilience

This term, which most of the time is used as “bouncing back”, originates from the Latin word “Resilio” which means “going back” (KLEIN, NICHOLLS & THOMALLA, 2003). Resilience has been used in various aspects from man made environment to people, social systems and communities; this fact creates different definitions for this concept (Table 1). In all of these
definitions, resilience describes the relation between the given system and external disorder, tension, turbulence and crisis (TIERNEY, 2015). Resilience was used for the first time in ecology by Holing in 1973. After Holing, several researchers used this concept in different fields: Adger (2000) in social systems, Carpenter (2000) in environmental-human systems, Berkes, Colding and Folk (2003) in ecological-social systems, Bruneau (2003) in short term accidents management and Timmerman (1981) in long term phenomenon such as climate changes. Today, resilience is not only a concept or definition, but it is more a way of thought (Folk, 2006) and it has a flexibility which makes it usable in various majors. Table 2 shows the definition of resilience in different scientific major.

### Table 1: Definitions of Resilience

| REFERENCE               | DEFINITION                                                                 |
|-------------------------|-----------------------------------------------------------------------------|
| Holing (1973)           | Stability within system’s relations; Capability of systems in capturing changes and permanent sustainability. |
| Timmerman, 1981         | Capability of human communities to resist in front of external shocks and revive after a catastrophic incident. |
| Carpenter, Walker, Anderies & Abel, (2001) | 1. The extent of damage which a system can absorb without losing its balance. 2. The extent of which a system can organize and restore itself under various conditions. 3. The extent of which a system can increase its learning capacity and its adaptation with conditions. |
| Bruneau et al. (2003)   | The capacity of a system in decreasing the probability of a shock, controlling a shock (sudden decrease in function) and quick restoring after the shock (reconstructing normal function). |
| Katz (2004)             | Methods in which people adapt to changes to achieve and “build” through using innovative actions. |
| Pooley & Cohen, (2010)  | Resilience is a dynamic and interactive process between people and environment which is always changing. |
| Folk et al. (2011)      | Resilience is for complex and dynamic systems, which has the following features: multiple paths to development, interactive courses of quick and gradual changes, nonlinear reaction and dynamic, thresholds, oscillation points and transferring among paths, and also the interaction of this dynamic during time. |

Source: Search data.

### Table 2: Definitions of resilience in scientific majors

| AUTHOR                  | SCIENTIFIC MAJOR | DEFINITIONS                                                                 |
|-------------------------|------------------|-----------------------------------------------------------------------------|
| Holing, (1973)          | Ecology          | Continuous communication with a system; A criteria for measuring the capability of systems in absorbing change in state variable, movable variables and parameters while keeping stability. |
| Berkes, Colding & Folk (2003) | Social ecology | Learning to live despite changes and uncertainties; various strengths can increase the learning capacity from accidents. Combination of different forms of knowledge to learn and self-organize. |
| Adger (2000)            | Social           | The capacity of groups or communities to adapt to tensions and turbulences; The capacity of social units to decrease risks; Performing restoring actions to decrease social disintegration. |
| Rose (2004)             | Economics        | Innate reaction and adaptation of people and societies towards incidents to decrease potential damages of those incidents. |
| Egeland, Carlson & Sroufe (1993) | Psychology | The capability of a person to keep out and retreat from catastrophes and accidents; People’s capacity in successful adaptation and continuous working despite high risk, pressure and damage. |
| Bodin & Wiman (2004)    | Basic Sciences   | The duration a system needs to return to its balance while moving; The speed with which a system restores its balance after movement. |

Source: Search data.

As Tables 1 and 2 depict since the emergence of the concept of resilience, different sciences provide different impressions for it; some describe this concept as a vacant term which can be filled almost with any meaning (VAN BREDA, 2018). These multiple meanings create severe criticism toward the reliability of resilience theory. Studies show that there exists inefficiency, complexity, uncertainty and even contradictory views regarding the concept of resilience, and this ambiguity limits resilience feasibility (CRITICAL INFRASTRUCTURE RESILIENCE, 2018). It is clear that at first, resilience was an attractive and good concept which did not have enough and necessary practicality and remained more as a theory due to its ambiguous and interpretive nature and its vast scale. Many researchers have criticized strategies and actions related to resilience. These researchers consider these actions formed by management from...
top to bottom and externally guided which do not value local needs, cooperation and learning process (for example: HAY & MULLER, 2014; MACKINNON & DERICKSON, 2013; FAINSTEIN, 2018). Some others have criticized technocratic understanding of this concept and its quantitative investigations, they believe that resilience should be considered as a dynamic political-social process instead (MACKINNON & DERICKSON, 2013; HAY & MULLER, 2014; FAINSTEIN, 2018, ROGERS, 2015). Generally speaking, plans and programs relating to resilience are more theoretical and they aim at reaching the remaining product; they all lack practicality and procedure.

**Urban resilience**

The definition which has been provided in International Encyclopedia Of Social and Behavioral Science for urban resilience says that urban resilience means the capacity of a city to face external pressures and keep or repair its main functions in different fields such as economic production, transportation, accommodation, energy transfer and social interactions (STEINEBACH, 2015:556). The given definition points to multiplicity of urban resilience and also emphasizes on some elements such as capacity to face, keep and repair city main functions. Therefore, urban resilience is the extent to which the cities can endure before they are reorganized to new sets of structures and procedures (HUDEC, 2017:19). Resilient city is a stable network of physical systems and human communities which can manage extreme events; i.e. both body and human communities can survive and function under pressure during the disaster (RUS, KILAR & KOREN, 2018:313). Recent studies show that reasonable urban development occurs only when that development is both resilient and sustainable; so urban planners, policy makers and researchers should pay similar attention to urban resilience and urban sustainability. Using urban resilience can strengthen the mobility of urban system which increase urban sustainability. Urban sustainability instead is a major factor in achieving a desirable future. Urban resilience is a passive observing process which is facilitating, retaining and restoring a real cycle between ecosystem services and human health through coordinated efforts affected by external factors (ZHANG & LI, 2018: 145).

In general, urban resilience seeks to create relations among urban systems; it wants to empower physical and social urban subsectors, in this way, it protect the city from unexpected damages and the city can survive. A resilient city defines with the combination of various abilities such as urban government, physical, economic and social systems; it also has some other factors such as the possibility of learning from dangers, preparing before occurrence, planning for uncertainty, resistance, capture, replacement and restoring the effects of a risk in an on time and efficient manner. This also includes keeping and repairing structures and essential functions. In fact, the aim of this approach is decreasing the vulnerability of the cities and empowering the citizens to face the risks of threats such as natural disasters. A resistant and resilient city is a city whose citizens cooperate with city officials and municipalities in decision making and urban plans based on the city’s capacities and resources. It is a city which risks are identified and necessary planning has be done to protect people’s lives and properties, cultural heritage and social capitals. This city can organize the works before, while and after a crisis (prevention, preparation, confrontation and reconstruction); it should be able to allocate required resources and enhance citizen’s awareness every time to decrease urban risks.

Although the concept of resilience is quite a new concept, its presence in planning literature during recent years is obvious. The entrance of resilience into urbanism and crisis management was like the birth of a new culture. Some researchers considered it as a new paradigm of urbanism and urban designing (MCENTIRE, 2014). Nowadays, expressions such as resilient and sustainable communities, resilient living and creating resilient communities are so common in scientific research and operative plans. But there exists critique for this paradigm due to its idealistic nature. There is a point worth mentioning and that is despite decays of dealing with resilience concept, do we have more resilient cities? The recent experience during COVID-19 pandemic shows that cities and communities lack enough resilience to confront problems and damages. Following COVID-19 outbreak, what happened in the world during the last five months was a disaster for cities and communities which challenged the knowledge of managers, professionals, designers, planners and physicians.
Whole humanity underwent a shock. Economy and social structures have been destroyed; normal life style has been stopped, mobility in large and micro scale has been also stopped; sports, entertainment, manifestations and religious activities and almost everything were canceled. Streets, public spaces, shopping malls, parks, schools and universities were all closed (Bahrainy, In Press). For the first time, people were asked seriously to observe hygienic principles and social distancing to decrease pandemic. People empowerment and awareness about this disease and people’s participation (from every social class and with every age and gender) were considered as the most important factors in decreasing this pandemic.

What we have witnessed during this time is that plans relating to city resilience are not responsive for this disaster. Most city resilience plans are complex and vague and their procedures are authoritarian and they are forced from authorities to people which is not a desirable approach in this situation. Research on city resilience needs new conceptual and thinking frames. Frames which can provide more accurate look to transferring strategic content to practical and dynamic procedures. There should be a review in values and priorities of the plans; however, interference, control and regulations cannot be avoided (Bahrainy, In Press). It is necessary to understand governance process, cooperative decision making, power relations, learning procedures and politics to be able to respond to complex challenges quickly and avoid technocratic solutions. Each member of the society is responsible for decreasing the risk-taking of accidents, this responsibility in the form of a group endeavor can provide a unique opportunity for participation.

Definitely, the present evolutionary knowledge should be reviewed since it cannot solve new emerging problems. Resilience strategies and their practical actions need a different framework for analysis; a framework which is different from all other existing frameworks (whether they are related to urban planning or not). A new revolutionary knowledge should be produced to meet new needs and it should be participatory in nature and for people. So, this study seeks to integrate critical theory and resilience and introduce a new paradigm which compensates the existing deficiencies and increases resilience feasibility and practicality.

Critical theory

Critical Theory is an expression used by Frankfurt School for research in social science during 1920s and 1930s. The most important figures of this school are: Theodor W. Adorno, Max Horkheimer, Herbert Marcuse, Jurgen Habermas and Axel Honneth (FUCHS, 2016a; 2016b). This theory tries to understand the role of power, dominance and exploitation in society through examining controversies, structures, actions, ideologies, relations and political action (FUCHS, 2017:499).

Critical Theory is part of Neo-Marxism and it is a new approach in humanities, social science and philosophy. This theory opposes to positivism which mostly describes and confirms the existing situation; instead it provides an idealistic society or a desirable situation (NOWZARI, 2017: 105). Critical theory describes itself as a knowledge which does not fetishize knowledge, because it considers knowledge as an ideological critique and a means to social emancipation. Regarding the inabilities, knowledge changes to social criticism and then it transforms itself to social action, i.e. it realizes reality (CORRADETTI, 2012:8). The concept of critical theory is recognized by being criticizing. When Frankfurt School use the words criticism and critical, their primary meaning is political and economic criticism of status quo; besides they pay attention to political and social dominant forces and ways of emancipation (RUSH, 2004:9).

The goal of critical research is not controlling social procedures or influencing different decisions, but instead it aims at starting self-reflection procedures and the practical consequences of self-reflection are changes in approaches and viewpoints. The point, which completes the above mentioned idea and takes it away from negativisms and power dominance, is Habermas emphasis on rationality and communicative action; this emphasis is the basis for his critical theory (TAJBAKHSH, 2005: 471). The concepts of communicative rationality and dialogue ethics for Habermas present a special form of politics. In this form of government, legislation is passed through public vote, based on the participation right of everybody, equality, superior argument and all citizens’ satisfaction and confirmation; this kind of government does everything in a dialogic and discursive format.
Frankfurt School criticize Dogmatic Marxism in the first place, and it considers industrial communities’ totalitarianism as a product of instrumental reason domination. This school provides a critical analysis for intellectual movement, it evaluates the thought and action relating to this movement. It opposes some of the principles of 20th century Pragmatism and eventually criticizes instrumental reason. According to this school, a rational society is a society which generally participates in changes and creation of a new situation. The first condition of creating such a new world is criticizing the status quo. Based on Frankfurt School, the society who omits groups of people from participating in political and economical activities, or systematically takes the power from some groups is an irrational society. In critical theory, every study is taken place with the aim of demythologization and people’s empowerment to change the status quo. This theory uses pragmatic and collaborative methods to enable all the beneficiaries to identify the intended issue and provide practical solutions for it. In this field, active people and professionals cooperate with each other and seek emancipation from all external obliged restraints. This theory tries to unite theory and practice through using practicality, dialogical and cooperative thinking.

Therefore, critical theory in society, is an evaluating and value theory, and one of its important goals is providing critical analysis of issues and problems existing in a society. This theory has a set of assumptions and uses them to analyze and criticize different aspects of a society; most important assumptions of this theory are as follow: “1. People’s beliefs and opinions are based on the society in which they live, so to achieve understanding and clear results, we should refer to temporal and spatial context of people. 2. Intellectuals should not be objective and extrovert in their scientific approaches and also in their socio-political encounters, they should not also separate reality from value judgment. 3. Intellectuals should approach their studying society critically, the major goal of this criticism is people’s awareness and creation of social change. 4. Critical theory (more than positivism’s “fact approach”) can lead intellectuals to issues such as reality and knowing “normative approach”. 5. Judgement tools in critical theory is closer to Hegel’s definition of wisdom rather than Marx definition. According to Hegel, free evolution and development of people depends on reasonable bases of the society. 6. The delusion which assumed that ownership and profit lost their major roles is outcast and according to critical theory, even traditional theory was part of a production procedure and it served present reality and specially increasing of profit and strengthening of ownership dominancy.” (BANDARABAD et al., 2015: 268).

Critical theory in Urbanism

Critical theory entered urbanism in 1980s and has become an urban critical theory. Urban critical theory in general refers a little to leftist writings or root urban scientists such as Henri Lefebvre, David Harvey, Manuel Castells or Piter Marcuse which has been used during years after 1968 (ROSSI, 2018). One of the reasons for emergence of critical metatheory in urbanism was Marxism inability to respond urban problems. In the late 1980s, it seemed that Marxism had no new solutions and capitalism did not let real urban planning to be realized and that was a theoretical dead end. The most important change for leaving this dead end was a communicative change; this change was inspired by Habermas ideas who based planning on cooperative dialogue which happened in local, group and small community scale. In 1970s and 1980s, the advocates of rationalistic methods in planning started some disputes with others. Some insisted on rejecting rationalist planning theory, some on modifying it and some on strengthening and developing it. Meanwhile one theory found more power and it could attract the attention of some of planning professionals. This was the theory which is later referred to as communicative planning or cooperative planning and expressions like this (EJLALI, RAFIEIAN and ASGARI, 1394:190-191). Therefore, this approach is considered a new approach in urbanism and has many advocates. This theory has evolved in urbanism and it has changed into planning based on collaboration and dialogue. Sager also believes that critical planning theory includes procedures which are called collaborative and dialogical planning (SAGER, 2013:Xii).

Critical urban theory does not emphasize on present conditions of the cities such as transhistorical rules of social organization, bureaucratic rationalism or economic efficiency; instead it emphasizes on special nature of urban space which is mediated politically and ideologically and is socially controversial and so it is flexible. This theory redefines concepts
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such as dissent, constructing discourse, communicative activity and free thinking. In other words, historically, urban critical theory emphasizes on continuous reconstruction of urban space as a place, a tool and a mediator and as a result of special relations of social powers. Critical urban theory is based on an opposing relation with not only hereditary urban knowledges but also present urban shapes. This theory emphasizes that another form of urbanism is possible which is more democratic and socially equal and sustainable.

Critical theory in urbanism does not seek to achieve design guidelines, solutions and special approaches to this or that issue; it is instead a general framework which follows two major goals, this framework can provide a basis for evaluating and criticizing theoretical and practical activities. Those major goals are: 1. Understanding modernism general characteristics and modern transformations which are necessary and should be considered in design and planning procedures and which can facilitate review of some common concepts; 2. Using Habermas critiques from different approaches to criticize and reconstruct famous theories and approaches in Urbanism (TAJBAKHSH, 1384:542). This theory requires criticizing ideology (including social-scientific ideologies) and power, inequality, injustice and exploitation both within and between cities. Critical theory with a comprehensive research about modern societies and their pathology, highlights the most important influential factors and their consequences, and it shows effective actions.

Urbanism focuses on various forms of studies such as physical, economic, historical, cultural, social, ecological, typological, morphological and so on, to study visual characteristics of cities, people’s perception of space and known environment, using and interacting with environment, spatial shapes, form of communication with natural environment, texture analysis and so on; if it wants to achieve its goal, it should understand those periodical features and factors which affect people internally and externally. When we emphasize on connecting urban studies with rationalizing procedures studies, this fact obliged urbanism to examine city and urban modern transformations based on these frameworks. It can be said that an emphasis on the importance of sociology, psychology, anthropology, cultural issues and economics in urbanism is not enough; instead we need to acquire a critical approach to criticize theoretical limitations of these majors. If urbanism acquires a critical approach, it can keep its role as an informative knowledge and it can found enlightening educational processes to realize fruitful, free and conscious interference of professionals and people in related activities. Dialogue and cooperation in critical theory is a critical fact which helps people to see and discover the world better.

When people participates, citizens become actively engaged in developmental process, and societies enjoy better physical environment, collective spirit, more users’ satisfaction, significant financial savings, trust and certainty. In this way, citizens accept decisions, plans and projects or they seek to find solutions for the existing problems (MAHDAVIJEJAD & AMINI, 2011). Critical theory is cooperative, collaborative and also pragmatic, and it also omits idealism and utopia, so it provides quicker and simpler ways for policy making. Therefore, this theory is able to examine the gap between theory and practice. It also can consider some strategies and create a critical framework to understand and practice; in this way it can decrease the existing gap between theory and practice in urbanism.

RESULTS AND DISCUSSION

Emergence of a new paradigm: integration of critical theory and urban resilience

Regarding the increasing expansion of urbanism, today cities are exposed to challenges and unexpected accidents such as climate changes, resource deficiency and vulnerability toward natural disasters more than before. During recent years, the concept of resilience has become very popular due to its positive nature and its usage has been expanded in academic and political debates. However, most of the studies in this field use general, vague and confusing expressions and they cannot conceptualize and theorize this concept systematically (JABAREEN, 2013: 221). It is obvious that resilience was first born in ecology and environment and in this sense its emergence in urbanism was accompanied with both opportunities and restraints. Urban resilience connects to urban planning due to the increasing effects of climate fundamental accidents, climate change and also unnatural accidents (manmade). Despite the fact that resilience theory is “the most hopeful interdisciplinary field in built environment”

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(HASSLER & KOHLER, 2014:120), still we do not have an operative resilience framework which considers world cities’ varieties and complexities. The significant weakness of research in this field is due to lack of multilayered theories and this fact that interdisciplinary and complex nature of urban resilience is usually ignored. Most of the times, the concept of resilience is considered superficially and externally and it hasn’t reached a strong, certain and operative status yet (FELICIOTTI et al., 2016:23).

What has happened in the world during recent months is an evidence for this fact. A global disaster happened in the world which shocked all humanity; COVID-19 outbroke in Wuhan, China and very soon it spread to other parts of the world and it became a global pandemic. There is not any other disaster (natural or manmade) in human history which affects life on earth to this extent; till today (July 20th, 2020) more than 14.2 million people have been affected by this virus and more than 599 thousand people have died because of this virus in the world.

There has been no predictive resilient plan for confronting this disaster. The world has encountered major economic and social problems, and a need for an operative resilient plan is more obvious than before. Travelling to cities was highly controlled and restricted, public spaces such as parks, museums, religious places, sport complexes and also schools and universities were closed. Access to urban services was difficult, using public transportation was banned, city’ entrances and exits were restricted, many routes within a city were either closed or restricted, due to this fact, access to emergency centers became impossible or difficult. Common graveyards are not suitable for burying the dead and also they lack enough vacant spaces. Hospitals and health care centers have been full of infected people or people suspicious to be infected, and they lack both space and facilities. These centers even become the centers which spread the virus. Smaller cities have been more successful in confrontation with this disease; “Big” as a factor for a better life failed. Big cities pay greater expenses for dealing with this disease, while smaller cities have been more successful in controlling this problem. Therefore, once more we understand that “small is beautiful” (BAHRAINY, In Press).

For instance, regarding the size of the cities, cities such as New York, Wuhan, Tehran and Chicago have endured the most pains to inhibit this disease since performing any form of control for them has not been possible. It is interesting that for the first time in human history, people are needed to be socially apart and physical distance is the only way to prevent the spread of this disease. It has been years that urban designing and planning have insisted on creating attractive public spaces, socialization and increasing attendance. Many considered globalization an ideal goal, while for the first time people are asked not to use public transportation, and use their own car instead.

It is obvious that the existing urbanism paradigm is facing a crisis. The recent experience has shown that the old paradigm of resilience theory cannot solve the emerging problems (although it could not prove its efficiency before this incident either). We should evaluate and review the past procedure in every field. We should review values and determine new priorities. Regarding urbanism, designing and planning contents should be changed fundamentally in theory, practice and education. Designing and planning methods and strategies in urbanism and their related factors and decisions should be reviewed completely. Designing and planning concept and priorities should also be changed. Resilience (and not sustainability) should become a determining factor in evaluating the plans. In fact, the recent incident (COVID-19 outbreak) showed that resilience is very ideal in dealing with these global crisis; the limitations of this concept should be addressed and to increase its feasibility, its gap between theory and practice should be omitted.

For societies it is necessary, effective and fruitful to be resilient and ready to confront such abnormalities. This article will present that present abnormalities eventually lead to major developments or paradigm shift. Scientific community will correct the abnormality which is reflected in “current paradigm rejection”, they will try to substitute this abnormality. This fact can be considered as a paradigm shift or a turning point. When the existing paradigm cannot correct abnormality, crisis occurs; in this time, paradigm is investigated thoroughly and research parameters are expanding which eventually lead to a paradigm shift (BAHRAINY, In Press). When the existing paradigm fails and cannot answer the questions, paradigm shift is inevitable, especially if this failure affects social structure, economic, welfare and wellbeing of
large groups of people. Under this circumstance, a new pattern will be proposed for the existing model.

Of course, this is not the first time which a paradigm shift is proposed in urban planning. The reason for this is that the old paradigm has not been able to respond to the emerging problems. At first, modernism used the protection of industrial revolution and introduced new dimensions for time and revolutionary space in traditional life, then information revolution, then sustainability and eventually critical theory has been presented (Bahrainy, In Press). So when the old paradigm cannot respond to existing questions and solve emerging and future problems, new paradigm will emerge. The recent experience relating to COVID-19 pandemic and investigations show that existing mechanism in decision making which is totalitarian, dictated from top to bottom and includes content elements is not suitable for dealing with current situation. It should be mentioned that resilience flexibility in science and its popularity among powerful private or governmental actors increase the risk of deliberate or undeliberate scientific justification of specific policies, projects or functions (OLSSON et al., 2015: 6).

Resilience is more debated theoretically and with the aim of reaching to product and it lacks practical solutions and the process of reaching to these solutions. In other words, this theory introduce an ideal context (content or product) without mentioning how to achieve this context. So the concept of resilience cannot respond to emerging problems by itself. This article shows that integrating critical theory and resilience can compensate the existing weaknesses in resilience and increase its feasibility (Table 3 depicts the unique characteristics of each).

Table 3 - Advantages and disadvantages of resilience and critical theory

| THEORY | ADVANTAGES | DISADVANTAGES |
|--------|------------|---------------|
| Resilience | • Emphasis on content unifying <br>• Integrating in profession <br>• A practical conflict <br>• Powerful <br>• Flexible <br>• Usable for dynamic and complex systems | • Ignoring process <br>• General and vague <br>• Inaccurate <br>• Impractical <br>• Idealistic <br>• It is not a useful model for profession <br>• Very complicated <br>• Internal conflicts <br>• Immature <br>• Gap between theory and practice <br>• No place in sociology theories <br>• Decision making from top to bottom |
| Critical | • Emphasis on procedure and method <br>• Knowledge synthesis <br>• Overcoming dualities <br>• Combining professional knowledge with nonprofessional knowledge <br>• Participation <br>• Pluralism <br>• Emancipatory <br>• Using three aspects of knowledge: technical, practical and critical <br>• Decreasing the probability of error repetition through continuous critique <br>• Probability of collective governance <br>• Decision making from bottom to top <br>• Collaboration <br>• Dialogue <br>• Pragmatism | • Ignoring product - content <br>• Too idealistic <br>• Time consuming <br>• Ignoring creativity <br>• Ignoring urban management <br>• Too much emphasis on procedure of planning <br>• Ignoring location |

Source: Search data.

The existing contrast and unity in resilience theory limit interdisciplinarity, participation and collaboration; while plurality which is a principle concept in critical theory makes integrated resilience research simpler. So the connection of these two theory creates plurality in resilience studies. Creating unity in resilience theory and thinking is not successful for interdisciplinary
and integrated studies (apart from natural science). When everything is dominated by neoliberalism, to create a fruitful interdisciplinary collaboration especially in integrated studies about sustainable and resilient complex challenges, pluralism is absolutely enough and even better (THOREN & PERSSON, 2013). The integration of resilience and critical theory resolve resilience limitations and deficiencies and through using pragmatic, participatory and collaborative method transfers unitarianism (as a factor which limits interdisciplinary dialogue) into pluralism and creates a new perspective in this knowledge. In this way, integrated studies relating to sustainability and resilience are facilitated better.

Critical theory is introduced as a planning theory, a planning, a worldview or a theory for profession which is interested in democratic management and controlling urban environments and planning mechanisms in a less imposed manner and it emphasizes on procedure more than product. While in resilience as a totalitarian approach the focus is on the result and on the product of the plans and not the procedure towards these results. Resilience has become a concept which is more scientific-administrative and political and it justifies capitalism and class societies. On the other hand, critical theory tackles with bureaucracy more and tries to empower people and societies by decentralization, in this way, it tries to achieve a least right to determine one’s destiny regarding life style, culture and identity. The connection and integration of resilience and critical theory creates a theory which provides a procedural strategy for dealing with different issues, it focuses on how to solve the problems rather than the solution itself; in this way, this theory bridges the gap between theory and practice, decreases resilience deficiencies and increases its feasibility. Critical theory is able to create a decision making process which occurs from bottom to top, and create a context for understanding of people; it can change public sphere to a place for political life and civil participation through free discussion. Demos claims that resilience is realized through people and not governments or organizations (DAVOODI, 2012: 305). More participation of beneficiaries and their following of consulting procedures lead to a new paradigm which brings more resilient actions, more practical actions with higher feasibility for the cities.

Critical theory focuses on changing the status quo instead of accepting it and in this way, it rejects transcendent subject. It also rejects noncritical and nonhistorical impressions and rejects the separation of science and knowledge from human’s values and interests. This theory synthesizes knowledge and through using three aspects of knowledge (technical, practical and critical) it dominates dualities. Critical theory decreases the probability of error repetition by criticizing the past repetitively. Moreover, it combines professional knowledge with nonprofessional one. It increases the probability of collective governance through establishing dialogue and collaboration in society. Therefore, in this new paradigm, critical theory uses collaborative and participatory approach and makes bottom to top decision making possible, in this way, it promotes awareness and social responsibility and stops repeating the past mistakes by repetitive critique. So integrating resilience and critical theory increases the probability of pragmatism in urbanism and urban spaces. Critical theory helps to better understand the role of power, dominance and exploitation in society through investigation of conflicts, structures, activities, ideologies, relations and so on. Then guidelines and strategies relating to resilience theory become more tangible and public and eventually more feasible.

The characteristics of the new paradigm
The new paradigm which is emerged through integration of critical theory and urban resilience (figure 1) reconsiders the existing evolutionary knowledge and creates a new revolutionary knowledge which is responsive to new requirements. In this new paradigm, urban resilience activities can be considered as an innovative urban strategies which are based on place. Innovation exists in urban governance in the form of gathering a wide range of influential people and following consulting procedures which combine ideas and critiques with the current operation. So resilience acts as a facilitating and moderating tool, a platform for knowledge exchange among local and other managers, private sector, NGOs and universities. The balance between people’s delegates (from bottom to top) and policy makers (from top to bottom) can create a context for transformations which are separate from existing urban policy makers.
This paradigm includes procedural and content element together; procedural elements are taken from critical theory, and content elements from resilience. Therefore it can pay attention to both process and product at the same time; Simultaneous attention to process and product is a factor necessary for variety in urbanism to integrate procedural and content elements in planning theories; this variety in the process relations reflects the goal of current planning methods. Table 4 compares procedural and content elements in new and old paradigms. The characteristics of the new paradigm are as follow:

- New paradigm creates decision making from bottom to top and in this way it confronts decentralization and bureaucracy; it tries to empower people and societies to participate in establishing their own destinies.
- It considers long term priorities and goals versus short term ones.
- It uses various methods and tools.
- It contributes to better understanding of the role of power, dominance and exploitation in society through investigation of conflicts, structures, activities, ideologies, relations and so on and it demands people's share in power.
- It prefers pluralism to unity as a methodological approach to create integrated studies relating to social and environmental dimensions.
- The flexibility of resilience theory and its accompaniment with critical theory can solve the gap among academic, political and scientific discourses.
- It is based on pragmatism as a method which admits that some issues are not provable and should be accepted regarding their use in human life.
- It is based on this motto “think globally, act locally”.
- This paradigm is produced with the integration of two divergent and convergent thinking, so it has the characteristics of both of them.
- This paradigm destroys existing complexities, uncertainties and deficiencies in resilience theory and it provides strategies for confronting complexity and uncertainty in urban and urbanism.
CONCLUSION
The concept of resilience has been used in various experimental fields which expands it from a simple descriptive expression (for example reflecting the mechanism of an ecosystem) to a normative approach or a “method of thinking”. This approach is established for thinking about how complicated systems can exist encountering uncertainty, disturbance and change. Cities are a form of complicated system; so, it is not surprising that resilience theory is increasingly used in urban studies. In fact, more descriptive format of resilience is both positive and negative; however, resilience thinking and the concept of resilient cities have been emerged and used as normative goals in both scientific and academic fields.

Despite the persuasive attractiveness of resilience regarding its cohesion, simplicity and perfection, its usage as a global concept faces various problems and critiques. Southwick et al. (2014) present that it is difficult to reach consensus about the definition of resilience, because different authors have different impressions of its structure. Resilience expression is somehow a vacant term which can be filled with any meaning. Some consider resilience as an innate matter for an individual while the others point to its more general meaning. Some regard resilience as a competence or a capacity for a person, while some others consider it as a positive function when confronting a disaster. These multiple meanings for one expression cast severe critiques about the reliability of resilience theory (Van Breda, 2018). Studies have shown that variety, confusion, ambiguity and contrasting ideas about scale and definition of resilience limit its operationalization (Davoodi, 2012; Critical Infrastructure Resilience, 2018). Although there has been some time since the introduction of resilience, unfortunately it could not bridge the gap between theory and practice in planning, and it is more a theoretical concept rather than a practical one. COVID-19 pandemic in the world has shown that the existing knowledge cannot confront the emerging problems. So we are encountering a paradigm crisis.

As it is mentioned earlier, when the old paradigm cannot respond to emerging questions and eventually new and future problems, the new paradigm is born. The recent experience shows that the existing mechanism in decision making (totalitarian, from top to bottom (content elements)) is not sufficient to tackle with the current situation. We need to review values and priorities. On the other hand, it seems that interference, control and rules are inevitable. Therefore, urban planning requires a paradigm shift to be able to tackle the new emerging problems and increase urban resilience feasibility; urban planning should integrate critical theory (as a procedural element) and resilience (as a content element) to create a new paradigm. In this new paradigm which can be considered as a new combination of power-knowledge, city and society function with the help of pragmatistic and collaborative approach taken from critical theory. In this way, a function has been changed and also a wide range of new activities will be performed which are participatory and derived from people’s ideas and

Table 4 - Comparison of Procedural and Content Elements in Old and New Paradigm

| Element | Old Paradigm: Theories, Methods, Concepts | New Paradigm: Theories, Methods, Concepts |
|---------|------------------------------------------|-------------------------------------------|
| Procedure | Totalitarian; Decision making from Top to Bottom; Technocratic; Immoral; Not observing justice; Bureaucratic; Considering personal profits; Avoiding public participation; Non collaborative; Not effective; Closed system; No feedback; Inclined to physical aesthetics; Environmental issues are not important; Blueprint design and plan; Definitive; Social and psychological aspects are not important; Globalization | Free decision making (from bottom to top); Participatory; Collaborative; Network cooperation; Having feedback and efficiency; Public awareness; Mutual learning; Accidental planning; Using divergent and convergent thinking; Evaluation as a major part in decision making; Pragmatism; Governance; The nature of critical theory provides the procedure element of the new paradigm. |
| Content | Modernism/Post modernism; Widespread mobility; Concentrated; Big cities; Public spaces; Socialization; Beautification; High density; Liveliness is not important; Capitalism; Malls and megamalls; Big parking lots; Car based transportation; Using fossil fuels; Disintegration; Car based life style; Commercialization and consumerism; Globalization | Empowerment of people and societies; Self-sufficiency; Reconsidering social relations; Redundancy; Promotion of decentralization and bureaucracy; Power role change; Long term priorities vs. short term ones; Small scale; Revision of life style; Practical activities; Ignoring traditional plans; The nature of resilience theory provides content element of this new paradigm. |

Source: Search data.
demands. So it is effective in tackling with complexities and uncertainties. Today’s society needs mechanisms which uses science for decision making and bridges the gap between science and society.

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Introducing a new paradigm in urban planning through integration of resilience and critical theory to increase feasibility of urban resilience

Resumo
O planejamento urbano requer uma mudança de paradigma determinista, a fim de melhorar a viabilidade da resiliência urbana e ser capaz de lidar com novas questões emergentes. Em termos de objetivo da pesquisa, o presente estudo é uma pesquisa fundamental e de natureza teórica. Em termos de natureza e método da pesquisa, trata-se de um estudo descritivo-analítico baseado na coleta de dados documentais e de biblioteca. Como a Teoria Crítica é uma abordagem processual para lidar com questões, que enfatiza o processo e não o produto, ao integrar a resiliência, como elemento de conteúdo, permite criar um novo paradigma que renove o conhecimento evolutivo existente e crie um novo conhecimento revolucionário, que finalmente atenderia às novas demandas. Como uma nova combinação de poder-conhecimento, que se baseia na descentralização e no compartilhamento de poder entre as pessoas, através da tomada de decisões de baixo nível, o novo paradigma cria mecanismos que colocam a ciência a serviço da sociedade, a fim de construir uma ponte entre a ciência e a tomada de decisões.

Palavras-chave: Resiliência. Resiliência urbana. Teoria crítica. Paradigma de planejamento urbano. Síntese de dualidade.

Abstract
The urban planning requires a deterministic paradigm shift, in order to enhance the feasibility of urban resilience and to be capable of dealing with new emerging issues. In terms of the objective of the research, the present study is a fundamental research and of a theoretical nature. In terms of the nature and method of the research, it is a descriptive-analytical study based on documentary and library data collection. As the Critical Theory is a procedural approach for dealing with issues, that emphasizes on the process rather than the product, it allows for the possibility to create a new paradigm that renews the existing evolutionary knowledge and creates a new revolutionary knowledge, which would ultimately fulfill the new demands. As a new combination of power-knowledge, which relies on decentralization and sharing power among the people, through bottom-top decision-making, the new paradigm creates mechanisms that put science at the service of the society, in order to build a bridge between science and decision-making.

Keywords: Resilience. Urban resilience. The critical theory. Urban planning paradigm. Duality synthesis.

Resumen
La planificación urbana requiere un cambio de paradigma determinista, con el fin de mejorar la viabilidad de la resiliencia urbana y ser capaz de hacer frente a los nuevos problemas emergentes. En cuanto a la naturaleza y el método de la investigación, se trata de un estudio descriptivo-analítico basado en la recolección de datos documentales y bibliotecarios. Como la Teoría Crítica es un enfoque procedimental para el tratamiento de los problemas, que hace hincapié en el proceso más que en el producto, al integrar la resiliencia, como elemento de contenido, permite la posibilidad de crear un nuevo paradigma que renueve el conocimiento evolutivo existente y cree un nuevo conocimiento revolucionario, que finalmente satisface las nuevas demandas. Como una nueva combinación de poder-conocimiento, que se basa en la descentralización y el reparto del poder entre las personas, a través de la toma de decisiones de abajo hacia arriba, el nuevo paradigma crea mecanismos que ponen la ciencia al servicio de la sociedad, con el fin de construir un puente entre la ciencia y la toma de decisiones.

Palabras-clave: Resiliencia. Resiliencia urbana. La teoría crítica. Paradigma urbanístico. Síntesis de dualidad.