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Eva Vaništa Lazarević, Aleksandra Đukić,
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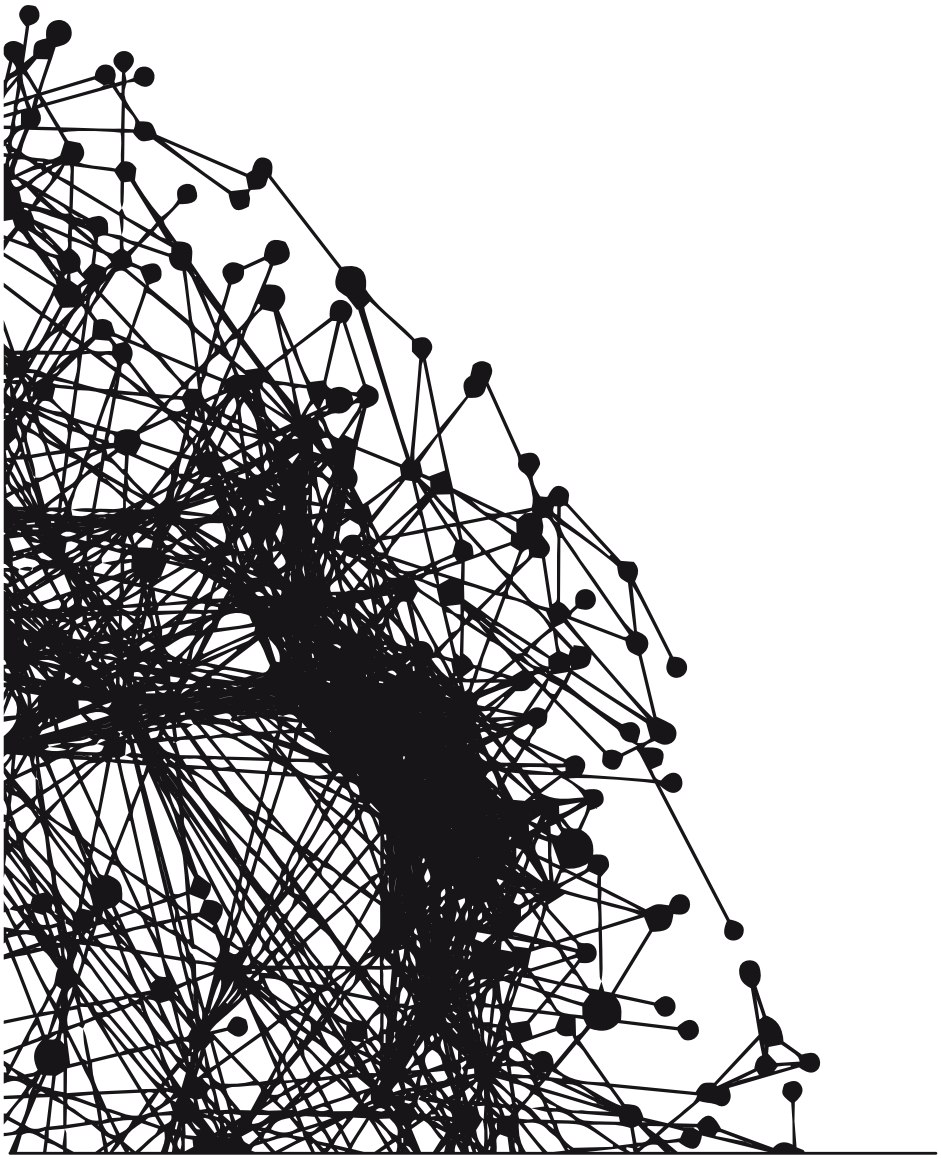

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WAYS TOWARDS CITY DEVELOPMENT AND NEW TECHNOLOGIES

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Abstract

Cities are challenged with constant changes. Unpredictability is a product of multilevel changes implying new thinking of city development and place making process. New thinking is related to theory of decision making, according to which we have to develop plenty ways of city development to be in a position for travelling along and across the ways. Therefore, we need new technologies to generate and evaluate the ways, so we can be proactive in city development and place making. The paper will discuss pros and cons of using new technologies in the process assuming that the technology per se is not an instrument for place making. Research thesis is that integration between new technologies, interdisciplinary and social knowledge is necessary to generate and evaluate appropriate ways. In line with this, the ways should be agreed in various social arenas, lining on new technologies as a support for data gathering, producing new information for discussion and clarification, using different diagrams, graphs, charts, reports and thematic maps for analysis of city's places and generating consensual ways for improving them or create new ones. Therefore, the aim of the paper is to discuss the role of new technologies in city development and place making in regards to decision making and place making theory. The paper will result in a form of conceptual model for using new technologies in city and place development. The method will use comparative analysis of decision making and place making theory as well as students' case studies that are result of ten years work at the subject "The Future of the City".

Keywords: Future of the City, New Technologies, Place making

Introduction

City is challenged by many processes that question approaches to its development. These processes many comes from the globalisation in all its aspects: cultural, economic, social, technological (Печујлић, 2003). Double sided globalisation process brings us to the conclusion that nothing is certain anymore. We can say and Giddens agrees that we are living in a "Runaway world" (Gidens, 2005) which is coloured by polarization, conflicts between interests, values, and lot of variables that we cannot perceive in totality.

The first chapter will discuss the role of new technologies in city development and place making process. City development is related to decision making theory and the type of certainty we are dealing with. Contemporary approach to development is interrelated with place making, especially with quality of places. Therefore we are in constant dilemma on appropriate way for the process of place creation. Is it one way or multiple ways? How do we travel through the ways?

The second chapter will speak about our need to use new technologies in the time of uncertainty. However, technology per se cannot be main instrument of integration and tracking the process of place making. We need to incorporate natural intelligence and social knowledge in making decisions and evaluating the ways. How do we do this integration? What are the methods and instruments on tracking the Future of city and places? What is the role of teaching in this integration?

City development, Decision making theory and Place making

Our fragmented picture of totality is something that is an axiom of development. Therefore, we cannot speak of comprehensive city development anymore. (Elin, 2004) According to Simon we are dealing with bounded rationality (Simon acc. to Hejvud, 2004). Our bounded natural rationality forces us to learn from the environment. This development of our cognition is by theoretical concept concepts: Lindblom's theory of muddling through (Lindblom, 1959), Faludi's theory of multiplanning agencies (Faludi, 1984) or Healey's collaborative planning (Healey, 1997). All of them are speaking about decision making process. According to Pavličić we make our decisions in three environmental conditions: certainty, risk and uncertainty.

Conditions of certainty are when we know all the variables and their possible positions. Nowadays this condition of certainty is present in short term decision making. The risk is present when we know all variables, and we can calculate their positions. However, we cannot predict when they will appear in which position. The conditions of uncertainty are present when we know only part of the variables and their positions (Pavličić, 2010). To relate Pavličić's categorization with city development we need to further discuss above mentioned theoretical concepts.

The Linblom's theory presents muddling through the present towards the future. It uses the decision making process when we decide according the present conditions.

Acoording to Ralević this theory can be explained as a process of posting among the different ways of city development (Figure 1). However, Ralevic's concept of posting needs vision and creation of various ways of its achievement that opens many tracks towards future of the city (Ralević, 2006). Alike Ralević Lindblom's theory do not have vision, so positioning means only muddling through present conditions. Therefore, outcomes of Lindblom's approach to city development are unpredictable.

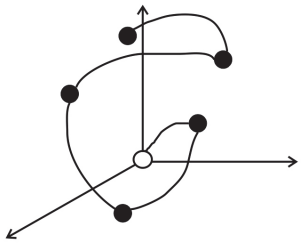

Figure 92: Positioning (Ralević, 2006)

On the other hand Faludi's theory deals with uncertainty lining on cybernetics and feedback from the environment. Faludi develops theory of multuplanning agencies in which they learn from each other and environment. We can say the agencies are learning systems as man is. Here is important to refer to Castells' theory of agents and agencies as social organisation of city. According to Castells agent is a subject, individual who is aware of its interests and is ready to enter into communication process of negotiation with other agents (Castells according to Gidens, 2003). In analogy agencies works similar to agents. So, if we interact with the environment we are enlarging our cognition and overcoming one level of uncertainty; meaning we can create our future and ways towards it. In relation to Ralević's concept this is the model of tracking, according to which we can use one way for a longer period than in positioning. Figures 2 and 3 show how we should deal with uncertainty when it becomes risk (Figure 2) or certainty (Figure 3).

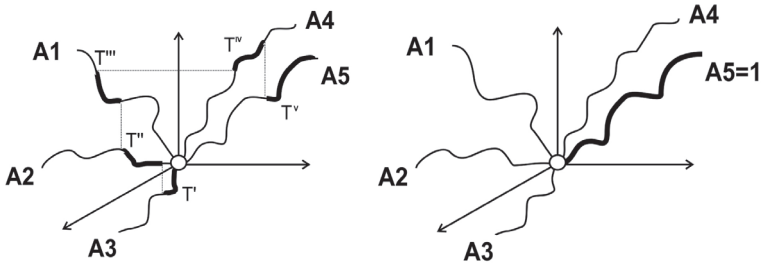

Figure 2,3: Tracking in risk and certainty (Ralević, 2006)

The previous discussion showed that uncertainty is manageable. So if we can convert it into risk or certainty only if we develop agents and agencies and collaborate. Therefore, Healey's theory speaks about Habermas' communicative action (Habermas, 1984) in city and regional development (Healey, 1997). It

considers more Castells agents and agencies then Faludi's planning theory. This is in the fact that Faludi is mostly misunderstood and we can say artificially categorized in theories of public administration and because he speaks of cybernetics wrongly positioned as comprehensive. However, in his theory he assumes that consensus exists and develops theory on how to achieve it. (Faludi, 1984) In Healey's theory we are faced with social arenas as "soft" infrastructure, we can now say agencies. Healey speaks about communication process to achieve consensus that is not elaborated in Faludi'a theory.

Consensus, multiplanning agencies, enable managing uncertainty in a way that it becomes risk or certainty. Therefore, we should not connect it strictly to time horizon as we did at the beginning. As we gave answers to managing city development; it is time to speak about its substance. Substance refers to the qualities we should achieve in city development. Qualities differ according to the conception of space we practice in the city or see the city. In this paper we will stick to the Aristotle's conception of space according to which space presents a network of places (Aristotle acc. to Norberg-Šulc, 1975). In the time of globalisation and sustainability places should be integrated and glocal (Mrđenović, et al., 2011). Integrated, because each of them should provide all qualities of wellbeing: be vital, vivid, beautiful, managable, safe, well equiped (http://www.pps.org/articles/what_is_placemaking/). Glocal because they should promote local values in global network (according to global standards)

New technologies in decision making process of place making

Multiplaning agencies use new technologies in process of place making when dealing with uncertainty. Artificial intelligence enables efficiency and effectiveness of widening our cognition of present and future of places. They are commonly named as decision support systems and use geographical information systems to ensure data integration and provide appropriate information that will convert uncertainty into conditions of risk and certainty.

Appropriate information are accurate, reliable and integrated (UN, 1992). Accurate means they are changing according to life cycle of the resources we are dealing with. Reliable because they should be provided by trusted sources, or we should be aware of the sources reliability when making decisions. Integrated information should cover all sustainability aspects and dimensions of place making. Using new technologies such as GIS is we can enable better collaboration between agents and agencies providing smarter solutions for better places. Smarter solutions are outcomes of learning muliplanning city that is connected to the final place products and users. Therefore, we will have better decision making in the process of place making and become smarter creators and users.

Technology enables multilateral city and place consuming. We can say that consumers (users) of the place are both its creators. Smart places are sensitive to environmental changes, also to users' needs and ideas. This smart network uses technology and artificial intelligence to create and provide better places for people.

In that manner we can programme places according to the life quality we want to achieve incorporating its parameters into the system and making open source programming of places. In this manner we all decide on how places should look like and what qualities they should provide. However, artificial intelligence cannot reach consensus on the standards, parameters, place identity and quality. We should do it by ourselves.

Here we are again at the beginning. How we can reach consensus and decide about common meaning when we have bounded rationality? Healey says we should use Habermas' communicative action to develop soft infrastructure and achieve consensual values and identity about city development and place making. In this sense we should build up and use different social arenas for negotiating qualities of place. (Healey, 1997) According to Healey collaborative planning, social knowledge and capacity building is crucial for place making. It is true in comparison to Castells' agents and agencies therefore true as well as in comparison to Faludi's theory. In line with previous collaborative planning also has its limits that are not only in barriers for open communication. The limits come from bounded collaborative rationality as well.

So, when we speak about new technology in place making the crucial thing is to create ways towards future. Managing the process includes converting uncertainty into risk. The conversion needs multiplanning agencies, social arenas and technology for developing different communication channels between entities and environment. The future city cannot live without human and artificial intelligence. Here, we position human in relation to artificial as the second is not only a product- it is an entity as well. This relation has been a subject of research over a decade at Faculty of Architecture in Belgrade at the course: „Future of the City", Professor Miodrag Ralević.

Students have been studied models and ways of interrelating technology with city development and place making for future. They used comparative case studies of future cities and their places, outlining main characteristics they are based on. The results show that future of the city is strongly linked to technology, sustainable development, globalisation and collaboration. There are several types of future cities and places:

- Cities that are managed by technology,
- Cities and places that are managed and created by technology,
- Cities and places that are created by people and,
- Cities and places that are strongly linked to nature.

The typology shows that both cities and places are crated or managed by technology, and strongly linked to human. Actually, a man is a central point in creating future places and spaces in the city. He is a focus of modelling in a way he becomes a subject or an active participant in the process of place making and city development. Active participant means he is an agent in building consensus and an actor in modelling the future places and spaces that are interlinked, sensitive, open source programmed, and shared. Therefore, he create ways towards future of city in

the process of place making using consensus and collaborative planning, and is sensitive to environmental changes using technology and multiplanning agencies to adopt to real world. He manages uncertainty developing strong links between human and artificial intelligence.

Conclusions: conceptual model for using technologies in city development and place making

The concluding part will give main principles of conceptual model for using technology in city development and place making. The principles are based on following pillars presented and discussed in paper: (1) Managing uncertainty; (2) Sustainable and Smart development; (3) Aristotle's concept of city space: network of places. The pillars are outcome of the discussed issues of managing uncertainty comparing Ralević's conception with decision making theory as well as theories of and in planning: Lindblom's, Faludi's and Healey's.

The crucial point is that Ralević gives options according to the city developing situation we are facing with: positioning, dynamic tracing and constant tracing along the ways for future development. The ways are visionary and manageable, so they integrate multiplanning agencies, collaboration and technology into one dynamic system. In other way said: human and artificial technology create integrated process of place making. Also, the principles are based on the outcomes of course: "Future of the City", managed and mentored by prof. Ralević at Faculty of Architecture in Belgrade. According to findings the future cities and places are: (a) managed by technology, (b) managed and created by technology, (c) created by people, (d) strongly linked to nature.

Therefore several principles for conceptual model emerge:

- City development should be a process of place making,
- The process should be manageable towards vision, converting uncertainty into risk and certainty,
- Technology should enable efficiency and effectiveness in the process, widening our cognition of reality and future,
- Technology should be used both in managing and creating city places,
- Artificial and human intelligence should be interrelated in a way of consensus building and reaching it according to the situation.

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