

URBAN 2.0 – Urban coding as an alternative to planning?

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ABSTRACT: The modern town planning was born to solve, or at least alleviate, the urban issues in the late 19th century. Today, although some problems have been solved or alleviated, we still have the same or new urban problems in many parts of the world. Recently, the New Urbanism and relevant activities have found that society and community, once considered as a myth, are thought of an essential component of urbanity and a potential force to solve the issues. Urban coding is used, as an alternative to or addition to urban planning, to empower those communities. In this paper, I will attempt to postulate a hypothesis of urban communities and coding as a possible means to bringing back the lost urbanity and solving urban problems, with a brief introduction of practices in US, UK and Japan.

KEYWORDS: community oriented development, network community, urban code

1 INTRODUCTION

“They’re casting their problem on society. And, you know, there is no such thing as society. There are individual men and women, and there are families. And no government can do anything except through people, and people must look to themselves first. It’s out duty to look after ourselves and then, also to look after our neighbour.” (Prime Minister Margaret Thatcher, talking to Women’s Own magazine, 31 October 1987)

The modern town planning was born to solve, or at least alleviate, the urban issues in the late 19th century. Today, although we have less hygienic problems and larger housing in developed countries, in many other areas, we still have the same issues we had in the 19th century. In addition, we now have regional or global environmental problems that have arisen from the urban areas.

It is thus necessary to reset a proper question to ourselves. To begin, we should revise the questions already made. Manuel Castells denied the ‘urban society’ because it is based on a myth (Castells, 1977, p.83). This is true, as he criticises, we tended to develop a semiological analysis of urban space (see Lynch 1960). Castells continues, ‘such an analysis is possible only if one reduces social action to a *language* and social relations to systems of communication’ (Castells, 1977, p.216 emphasis original). He did not deny local communities, saying “local communities, constructed through collective action and preserved through collective memory, are specific sources of identities” (Castells, 1997, p.68). As Thatcher mentioned, the way we can affect our cities is only through individuals. Urban society may be a mirage, yet people and community are the foundation of our cities.

Our goal is to find an alternative way to planning to solve these urban issues and to generate rich urbanity. In order to do so, we need to understand the potential of communities. Our methodology is to “discover the language of forms” (Castells, 1977, p.221). This reminds me of Pattern Language, in which people are given the words to describe their cities. A pattern is a description of an invariant solution to a recurrent problem, and a set of patterns empower ordinary people to talk to professionals. Interestingly, the idea has been adopted in other design related industries, most notable software design.

This short essay is an attempt to answer the new urban questions and to postulate a hypothesis of design theory from the recent best practices. Such theories are characterised by several keywords, including networked society, participation and bottom-up. It does not only draw practices from urban design, but also from various design and development projects. Among them, software design is one of the largest sources of design theories and practices.

The title of this paper comes from a recent buzzword ‘web 2.0’ in computer science, which refers to the second generation of web development and design like wiki, YouTube, and social networking sites. The term was coined by DiNucci (1999) but became popular among the software developers by O’Reilly Media Web 2.0 Conference in 2004. The characteristics of ‘web 2.0’ include rich user experience, user participation, and standards and scalability (O’Reilly, 2005). Just like ‘web 2.0’ is about web design and development, the term ‘urban 2.0’ is coined in this paper to refer to the recent design and development aspects of New Urbanism.

2 REEVALUATING COMMUNITIES

2.1 Community generate the urban

When we talk about historical towns as preferred in the context of neo-traditionalism, what we have in our minds may be medieval European towns. It is usually medieval age, between the 5th century through the 16th century. However, we also have interesting heritages in 19th century. So, just like Alexander showed some ‘good’ examples in *A City is Not a Tree*, let’s see some examples of community-based developments.



Figure 1. The National Theatre, Prague

The National Theatre of Prague (constructed in 1881, reconstructed in 1883) is a good example of landmark buildings developed by and for the community. During German-dominated period of the city, the community of Czech speaking people donated on the project to build a theatre of their own language (Kimball, 1964).

Similarly, many museums, such as Museum of Fine Arts Boston and New York Metropolitan Museum, are built and maintained by local citizens. These ‘community-based museums’ and other facilities are pretty much in common.



Figure 2. The Statue of Liberty, New York

The Statue of Liberty (dedicated in 1886) is an interesting case because it was not built only by the Americans, but in collaboration with the French. The idea for the commemorative gift was originally a

political decision, but soon grew out of the political turmoil which was shaking France at the time. The French Third Republic was still considered as a temporary arrangement by many, who wished a return to monarchism.



Figure 3. The Heian Shrine, Kyoto

The Heian Shrine of Kyoto (constructed in 1895), and its Festival of the Ages are another example. The shrine was built to commemorate the 1100th anniversary of the founding of the city. The festival is held in October every year, which has been maintained by the local communities. In order to maintain the festival, the local communities participate in the festival in turn; the city is divided into ten areas; the areas are further divided into some 10 subareas, one of which participate in the festival in turn to represent the area.

These are some examples of how the community affects the urban space. They are landmarks of community identities, and, may be ‘defensive reactions against the impositions of global disorder’ (Castells, 1997, p.68), yet, they did build heavens, but not havens.

2.2 Lost urbanity in the 20th century

When Christopher Alexander (1966) discussed that city is not a tree, he saw city as a complex object. The urbanity lies, as he discusses, in the complexity of the cities, which cannot be ignored when designing a city. On the other hand, in modernism, many architects sought to remove such urbanity from the cities. Therefore, Alexander sought the principle of urban design to bring back the urbanity, or quality without a name, to the cities (Alexander, 1979).

The communities have developed their identities. But these identities, in the 20th century, turned to be “defensive reactions against the impositions of global disorder and uncontrollable, fast-paced change” (Castells, 1997, p.68). In fact, throughout Japan, we see many local communities that oppose to developments that might affect their locality. A number of disputes against construction of apartment housing are often a defensive action.

2.3 Bring back urbanity to community

We have seen some community-based developments in the 19th century. Throughout the medieval ages, various kinds of places of worship have played an important role as a community centre. These examples are more like a replacement of cathedrals and churches, until the market. Planning has been considered, at least among the professionals, as a rational activity until 1960s when the urban theorists, such as Jane Jacobs and Christopher Alexander, criticised the planning.

In modernist thinking, functionality and scientific logic are essential. This may also be true in New Urbanism in principle, yet now it is accepted that the theory of design has different framework than that of science. Take physics as an example, understanding Newton’s law is essential to study dynamics, yet it is far from sufficient to design an aeroplane. Scientific analysis of the cities has advanced us to understand many phenomena, yet we still need to develop another set of design theories. Understanding the cities scientifically is necessary, but not sufficient to . To do so, our approach is conventional: trial and errors. Alexander, therefore, proposed to develop a language based on the best practices from the past architecture and urban design experiences (Alexander et al., 1977).

3 URBAN CODING: A METHOD of URBAN 2.0?

3.1 From cathedral to bazaar



Figure 4: Bazaar in Istanbul, Photograph by Babak Gholizadeh

A cathedral in this section is not a building in the real world, but it refers to a development style in contrast to bazaar. A cathedral style of development is a traditional, well planned way of building a large structure. A bazaar style, on the other hand, is a way of making a rough framework, within which each individual constructs his space to make a whole. The terms were used by Eric Steven Raymond (1999) to contrast how Linux has developed without a detailed plan.

Christopher Alexander's Pattern Language has directly and indirectly affected software design. Most directly, the design patterns have been developed in 1980s to solve the recurrent software development issues. The system of wiki, now popular as in Wikipedia, is a collaborative documenting tool influenced by Pattern Language. Unlike a single city plan, Alexander's 'pattern language' consists of multiple approaches to problems. The planners who follow Alexander's methodology are called 'advocacy' professionals (Shane, 2004). Many of the grassroots communities, who are served by the advocacy planners, were instigated by the threats of new development. Unlike proactive planning, coding emerged as a reactive approach to development.

While advocacy planners (Davidoff, 1965) remained to see planning as a profession, the importance of amateurs emerged in other forms of space and community: computer and the Internet. Computer programmers adopted the idea of pattern language as design patterns to share common programming techniques. Eric Steven Raymond (1999) contrasted the conventional and new approaches by a metaphor of cathedral and bazaar. In the cathedral model, code develops, but between the releases of codes is restricted to an exclusive group of developers. On the other hand, in the bazaar model, the code is developed over in view of the public. "Given enough eyeballs, all bugs are shallow" is one of the most popular phrases he uses.

He discusses that when seeing software development, a bazaar-style development to 'delegate everything you can', whether to professionals or to amateurs, works as well as conventional cathedral-style development.

What he mentioned is about source code of programming, yet it seems applicable to other types of development. In fact, these ideas were quickly adopted by non-programming communities on the Internet, e.g. Wikipedia, Creative Commons (Lessig, 2005) and online games (Pargman, 2000) as well. Lessig (2005) discusses that, in cyberspace, or more generally in Commons, laws may be written by anyone. He continues that coding is 'a collaborative activity to protect values that we believe are fundamental, or in some cases, to allow those values to disappear' (Lessig, 2005, p.6).

3.2 Bottom-up in a tree structure

"Alexander presents the Pattern Language as a practical tool, and orders the patterns in roughly

decreasing size. That is the correct ordering when one is using them for design, since decisions on the largest scale have to be made first. ... I recommend, though, that you photocopy the relevant patterns from *A Pattern Language* (Alexander et al., 1977), and staple them together in the reversed order. Reading them without the distractions of all other patterns helps to connect them in the reader's mind, and the natural progression small to large reveals the connections between successively larger scales." (Salingaros, 2005, p.196)

Despite the number of applications in software design, Pattern Language is often considered rather as unsuccessful in urban planning. Perhaps, the most important critic on Pattern Language from community perspective is made by Salingaros (2005), Alexander's close collaborator.

Alexander (1966) introduced the graph theory to urbanism. In his discussion, a city was seen as a network. The simplest form of a network is a tree, which omits much of the urbanity. When discussing the top-down and bottom-up, we need to introduce 'direction' to the graph (Figure 5). In principle, top-down and bottom up are topologically isometric so long as a city is seen as a tree. What is 'bottom-up'? Is 'bottom-up' really the antonym of 'top-down'? In very simple models, the two approaches contrast. However, in other bottom-up approaches, there are many variations. As the structure becomes more complex, the number of variations grows.

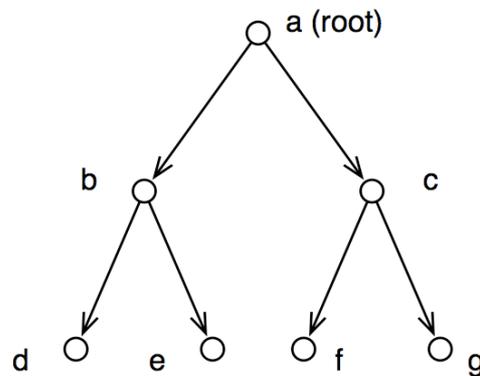


Figure 5: A directed tree graph

It seems that most 'bottom-up' are not truly bottom-up (Figure 5 top and middle). In this exclusive approach, although information goes up from one child to its parent, the other child is excluded. When community control "supports separatism", the bottom just becomes another top, resulting in another top-down structure Arnstein (1969). It is thus essential, for community design, to make sure that the members are well involved (Figure 5 bottom).

And, to implement the genuine bottom-up, it is important that all the members be well networked, although the paths among the child nodes are not explicitly shown in the graphs. In other word, this is a shift from 'vertical' thinking to 'horizontal' thinking.

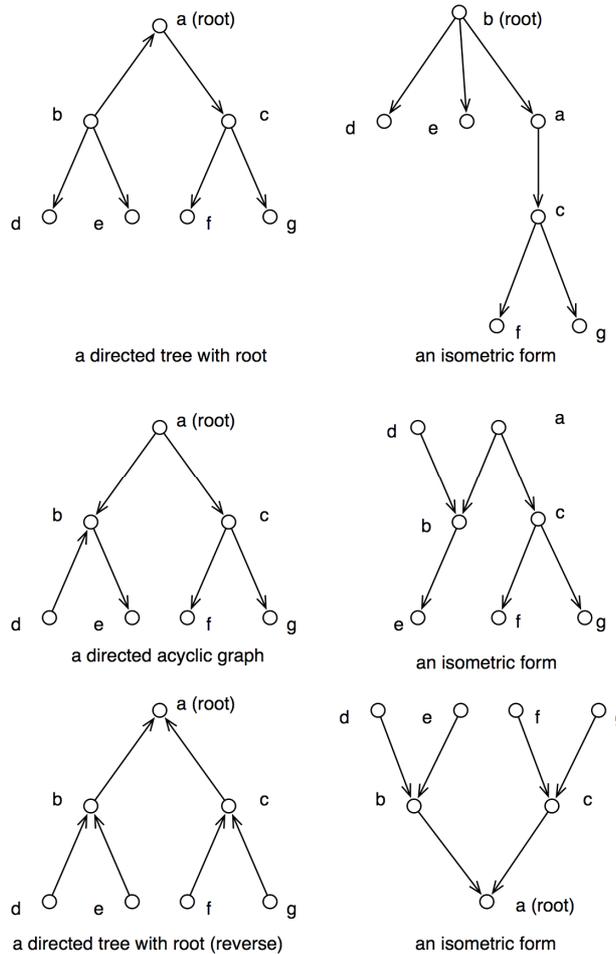


Figure 6: Variations of Bottom-Up

3.3 Urban code and community

Like Alexander, Nakane (1970) has discussed two different structures of organisations. A vertical organisation, as she discusses, is difficult to join because there may not be no clear rule, while a horizontal organisation has a clear rule, or a *code*, of the membership. She claims that horizontal organisations are more open to new and potential members. Castells supports this idea: “what gives an ideological discourse its power is that it always constitutes a *code* on the basis of which communication between subjects become possible” (Castells, 1977, p.218 emphasis added).

4 RECENT PRACTICES OF URBAN CODING

Currently, several groups have adopted the coding approach. Some code templates, empirical practices and real developments are somehow jumbled in Table 1.

Table 1 List of Urban Codes in Practice

Country / State	City / Organization	Title	Version / Date
US	Center for Environmental Structure	Generative Code	v.14 2005
	DPZ	SmartCode	v.9.2 2003

Florida	Seaside	Seaside Urban Code	1986
	Winter Springs Dade County	Winter Springs Town Center District Code Miami/Dade County TND Distric	
	St. Lucie County	Towns, Villages, Countryside Land Development Regulations	
Arkansas	Conway	Planning Commission Staff Report	2006
Miami	South Miami	South Miami Hometown Overlay District	
Virginia	Arlington County	Columbia Pike Form Based Code (Section 20. Appendix A of the Zoning Ordinance)	
Texas	Farmers Branch	Farmers Branch Station Area Form-Based Code	
	Leander	Truman Heights Revitalization Code Leander SmartCode	2007 2005
	El Paso	The SmartCode: A new option for El Paso	2008
California	Petaluma	Central Petaluma Specific Plan and SmartCode	
Alabama	Pike Road Montgomery	Pike Road SmartCode Montgomery SmartCode	
Arizona	Flagstaff	Traditional Neighborhood District Ordinance	
Louisiana	Abbeville		2006
Mississippi	Pass Christian Gulfport	Pass Christian SmartCode SmartCode	
	Flowood	Flowood SmartCode	v.1 2007
Kentucky	Jefferson County	Land Development Code for Jefferson County	
UK	The Princes Foundation CABE	Urban Codes & Pattern Books Preparing Design Code	2008 2006
England	Essex	A Design Guide for Residential Areas	1973
	Walker Riverside, Newcastle upon Tyne	Walker Riverside Design Code: Supplementary planning document	v.1.2 5/17/2007
	Upton, Northampton Sherford	Upton Design Code	v.2, March 2005
	Crewkerne, South Somerset	Crewkerne Key Site 1: Easthams Architectural & Design Code	October 2005
	Cotswold	Cotswold Design Code	March 2000
	Taunton, Somerset	Taunton Town Centre Design Code: Adopted Supplementary Planning Document	October 2008
	Rotherham, South Yorkshire	Design Code for the Rotherham Town Centre River Corridor	September 2005
	Anfield / Breckfield, Liverpool		
	Poundbury, Dorset		
	Fairford Leys, Aylesbury		
	Fairfield Park, Letchworth		
	Ashford Barracks, Ashford	Ashford Barracks Design Codes	March 2007
	Aldershot Military Estate		
	Cirenster		
	Hastings, Ore Valley		
Wales	Coed Darcy (Llandarcy), Swansea, South West Wales	Code Darcy Masterplan Area 1 Design Statement	A4946 June 2006
Japan	Machinami Inkai of Kawagoe Ichibangai, Saitama	Kawagoe Machizukuri Kihan	24 April S62
	Gionmachi Minamigawa District Council, Kyoto	Rekishiteki Keikan wo Mamori Hatten saseru Shoseidoshu	August H18

Australia	West Australia	Liveable Neighbourhoods Community Design Code (LNCDC)	1997
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Generative Code is a project that has evolved from pattern languages by Center for Environmental Structure, of which Christopher Alexander is a member. According to their website¹, a generative code is ‘a system of unfolding steps that enable people in a community to create a wholesome and healthy neighborhood’. Just like the theoretical background of Pattern Language is in a separate book (*Timeless Way of Building*), its theoretical background is elaborated in the four-volume book *The Nature of Order*.

Duany and Plater-Zyberk (DPZ) has been developing an urban code template called *SmartCode*, the version of which has gone up to 9.2. The use of term ‘version’ instead of ‘edition’ reflects the influence of software development. *SmartCode* is ‘a model transect-based development code available for all scales of planning, from the region to the community to the block and building’. The code is intended for local calibration. The first version of *SmartCode* was developed as early as in 1993, based DPZ’s earlier works, including widely known Seaside, Florida.

The Prince of Wales hired Christopher Alexander and Leon Krier for Urban Design Task Force (UDTF) in 1980s and 1990s, now succeeded to the Prince’s Foundation for the Built Environment (PFBE). The Prince’s Foundation has worked on the development of codes for Coed Darcy (Llandarcy), Upton, Sherford and Crewkerne, and most notably, for Pundbury.

The Centre for Architecture and the Built Environment (CABE) is another organisation in UK that explores how urban design codes can help to increase property values, reduce crime, contribute to public health and ease transport problems..

Japanese cases are different to these organisation-led developments. Although some developments, such as Makuhari Bay Town, which was developed with strict design guidelines, the cases shown in Table 1 were not supported by code developers. In a word, they are still at its infancy. However, it is very interested because the codes have been developed by the local communities. Kawagoe and Kyoto are both historical towns with strong sense of communities.

5 CONCLUSION

In this essay, I attempted to throw several questions. Some explicitly, but many others implicitly. Let’s sum up these questions. First, if urban planning does not solve our problems, what are possible measures? Are there communities that are able to solve their problems by themselves? As a possible approach, we have seen several successful cases. However, are these applicable to other communities, especially those with complicated issues? How about new development without any existing community?

Urban coding may be a solution to these questions. If so, development of template codes and the techniques to adopt them according to the local context will need to be developed.

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¹ <http://www.livingneighborhoods.org>

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