Methodology for Urbanism

AR2U090 Best Essays 2010-2012

What are relevant relationships between design practice and academic research?

Edited by Roberto Rocco Chair Spatial Planning and Strategy TUDelft

What is Urbanism and what are skills, values, qualities, knowledge and tools one has to have or to learn in order to be an urbanist?

What is a method and why do I need one to design? Why do I need methods to do research?

What is the value of communication in planning and designing for people?

What are the values implicit in the urban design and spatial planning activities? Or are they value free?

Does research limit my creativity? Or does it help expand its boundaries?

TU Delft Delft University of Technology

URBANISM

Colophon

Research and Design Methodology for Urbanism

'Best Essays 2009-2012'

Edited by Roberto Rocco r.c.rocco@tudelft.nl
Chair Spatial Planning and Strategy,
Department of Urbanism
Delft University of Technology

TU Delft, Bouwkunde, Department of Urbanism

Julianalaan 134 | 2628BL Delft | The Netherlands

http://www.spatialplanning.bk.tudelft.nl/

http://www.spatialplanningtudelft.eu

These are essays written by students of the course AR2U090 Research and Design Methodology for Urbanism from 2010 to 2012. This is a 5 ECTS course given within the Masters in Urbanism programme of the TU Delft by Roberto Rocco and Egbert Stolk. At the end of the course students are asked to write an essay about themes studied. The theme of the essay has varied over the years, but essays generally concentrate on the relationship between research and design in Urbanism and an evaluation of the Urbanism Masters programme at TU Delft.

All essays published here have been edited for clarity. Authors have approved changes, when they occur. As students come from all over the world, their writing skills in English vary considerably. These essays reflect this variety.

ISBN: 978-946186-040-8

TU Delft
URBANISM

Acknowledgments

This booklet is the product of students' work. The authors of the texts were generous enough to let us publish them and deserve our thanks. Texts suffered only minor alterations. The level of language, which reflects students' current writing skills, has been maintained.

The course Methodology for Urbanism has been given by Roberto Rocco since its inception, but the last edition has seen Egbert Stolk join the team. Some of the essays in the last part were reviewed by him.

Dr. Machiel van Dorst has helped develop the course.

Dr. Daniela Buchler and Professor Michael Biggs from the research group "Research into Practice" of the University of Hertforshire, UK, have helped develop the basic lines of this course.

Professor Vincent Nadin has given valuable advice about the development of the course and about this booklet.

Introduction: The Academicisation of Practice

Document prepared by Roberto Rocco and Remon Rooij

When the daily board of the Department of Urbanism of the TU Delft decided to implement a new methodology course in its two-year Masters programme, we were faced with some big challenges. Within our department there is a large variety of ideas and opinions about what an education in Urbanism entails and what the relation between research and design is.

Part of this diversity can be attributed to the specific development of the discipline in the Netherlands. 'Urbanism' is not an English word, and what urbanism contains or comprises in the Netherlands is not always clear to outsiders: there is a strong element of urban design mixed with planning components, with tints of engineering, sociology, political science and even computer modelling. In other words, 'urbanism' can be translated into 'studies towards spatial intervention in the built environment'.

Moreover, the rapid internationalisation of the university has challenged the prevailing (and to some extent, idiosyncratic) understanding of what urbanism is.

On the other hand, dramatic changes in how cities and urban regions are organised present practitioners with new and unsuspected challenges. Urbanism is a very dynamic discipline. There are new problems and challenges, but also new tools for analysis. Academicians, practitioners and students need to constantly update themselves. This entails a changing understanding of the discipline and the tasks involved.

Three years after the implementation of the course, we have moved on and the importance of an academic education at TU Delft is no longer under discussion. Most people, including student themselves, agree that a higher education institution needs to offer the best academic education possible. In our case, this happens in straight combination with practical skills that are inherent to our discipline. Students are particularly keen on doing high quality academic research that will inform, ground or promote good design and planning.

But how to conciliate the requirements of academic research with the needs of design and planning practice? Do designers have special requirements and practices when doing research? If so, how do these relate to more traditional ways of doing research in the social and physical sciences?

These are questions we have explored in the 1st year's Master course Methodology for Urbanism (AR2U090, 5ects). The course has evolved in its three years of existence and has incorporated new knowledge and varied viewpoints about the character of an education in Urbanism, as well as the connections between research and design and planning practices. This 'evolution' has happened in a framework where students are constantly invited to discuss and reflect on different ideas about the nature of knowledge, the importance of values, the variety of tools, skills and qualities one needs in order to be an 'urbanist'. Last but not least, they have been encouraged to reflect on the ethical dimensions of the urbanism discipline.

This discussion is presented here, in the form of some of the best essays, which the students were asked to write at the end of the course. In the first year of the course, students were invited to discuss a fixed set of questions in their essays and they needed to develop their analysis onto the Urbanism study programme. Lately, we have let students free to decide which specific aspects of an education in urbanism they would like to discuss, but we have asked them to reflect back on the education provided by the TU Delft and to concentrate on issues concerning 'methodology' in its widest sense.

The important point we want to make here is that students have helped to articulate the knowledge and the methods we now use at the methodology course and the Urbanism study program as a whole. They have contributed actively, sometimes passionately, with their knowledge, experiences and most of all, with their capacity for solid and well-grounded research and critical analysis.

Here, it is important to mention our course objectives; so that the reader understands the general direction the essays presented in this book take. In principle, the Methodology course aims to respond to the requirements of an academic education in an area of design and planning practice. In other words, the course seeks:

1. to build a relevant bridge between creative practice and academic research in the field of urban planning and design;

2. to familiarize students with the body of knowledge that has already been produced on the relationship between creative practice and academic research, and to enable students to apply this knowledge to the activities and tasks involved in the Masters of Urbanism offered at TU Delft;

3. to introduce students to different notions of knowledge and different expected outcomes in research in the social sciences, the physical sciences and in design and planning practices;

4. to encourage and support research in the Masters of Urbanism, in a way that is coherent with expectations of a leading academic institution, such as TU Delft.

The course presents the students with discussions which are centred around different conceptions of knowledge and the different expectations regarding research, design and planning methods, and outcomes from different communities of practice. We do that through a series of theoretical lectures accompanied by practical exercises and much in-class debate.

What you are about to read is the result of these discussions.

Roberto Rocco & Remon Rooij

Delft, June 29, 2012.

AR2U090
Research & Design Methodology for Urbanism

Knowledge is active engagement with the object to be known. This means that you need to 'work' in order to know: to *study*, to *research*, to *design*, to discuss and to *communicate*.

TU Delft Delft University of Technology

URBANISM

About the course

Mission Statement

In the Department of Urbanism of the TU Delft, we acknowledge the importance of upholding high academic standards. However, because urbanism is not a pure discipline, but one that draws inputs from a myriad of other disciplines (i.e. the social sciences, the physical sciences, and very particularly, design), it is necessary to articulate different research paradigms that stem from various communities of research and practice into a meaningful whole. We believe that this goal will be more easily met if meaningful relationships between the various disciplines that are taught at the Department of Urbanism are discussed in a clear and systematic manner, making different research paradigms explicit.

At first sight, the relevant question to be addressed by this course is: What kind of skills and tools must be taught by the department of Urbanism in order to allow students to fulfill their goals and achieve high professional and academic standards? On closer inspection, we learn that the Department of Urbanism of the TU Delft offers a multitude of qualifications in different areas that are relevant to the activity of spatial design and planning: urban design, landscape architecture, spatial planning and strategy, metropolitan and regional design, to cite a few. There is an important element of design practice and the practical elements of urbanism are emphasized. Therefore, there is disagreeent about the nature of the education offered and the role of academic research in different professional areas in urbanism.

The University of Hertfordshire (UK) hosts a major research project funded by the British Arts and Humanities Research Council. This project explores the relationship between academic research and creative practice. This course was developed at TU Delft as a product of our collaboration with the UH on this project and tackles the relationship between research, planning and design, through a dialogue between different views on the activity of urban planning and designing. It explores new relationships between important elements that bind the different research paradigms that exist in urbanism, such as the relationship between text and image, form and content, rhetoric and experience, relating these elements with established academic research standards.

General Aims

This course aims to respond to the requirements of an academic education in an area of research and design practice, namely:

1. To build a relevant bridge in the context of a higher education between creative practice and academic research in the field of urban planning and design

2. To familiarize students with the body of knowledge that has already been produced on the relationship between creative practice and academic research, and to enable students to apply this knowledge to the activities and tasks involved in the Masters of Urbanism offered at TU Delft

3. To introduce students to different expectations in research in different fields of study, namely activities that involve traditional and non-traditional forms of research in areas with a strong element of practice developed by different research groups during the Studio Quarters

4. To encourage and support research in the Masters of Urbanism, in a way that is coherent with expectations of a leading academic institution, such as TU Delft

Specific objectives

The specific aim of the course is to promote a dialogue between different qualifications offered by the department of Urbanism of the TU Delft, by proposing a dialogue between different worldviews, with their different values, requirements and expectations. By acknowledging that there are different value systems in different fields of research and practice of Urbanism, we can start to address the specific requirements of each community. Our objetives towards the specific aims are:

1. Clarify what are accepted academic research practices in each community

2. Identify what are alternative research practices in fields of design practice

3. Define common and/or shared goals and evaluation criteria for students who are developing studies in Urbanism

4. Broaden the spectrum of methods and approaches used to analyze and intervene in inhabited space.

These objectives will be met through a structured review of the methods that are presented in different study tracks offered to students in MSc1 and MSc2 in different studio quarters. By attending this course, it is anticipated that students will acquire a better understanding of the different academic possibilities in Urbanism.

The course will also enable students to develop a reflection on different research paradigms and assessment criteria.

Assessment

Students will be assessed at the end of the course. They will be invited to develop an essay on one or more themes tackled during the course. Alternatively, it is possible to present any piece of work that substitutes text in the discussion of the themes proposed. Moreover, students are also assessed on the basis of their participation in the preparatory workshops that take place in quarters 1 and 2.

The assessment consists of a take-home examination divided in 2 parts: (A) a questions-and-answers part and (B) a short essay to be written in pairs. You need to find a partner to write the essay.

(A) In the questions-and-answers part, you are going to be assessed concerning the understanding of specific points discussed during the course. You are expected not only to write but also to draw. You can refer to the material available on Blackboard and your class notes. This is worth 30% of the total grade.

B) For the second part, you need to develop a 5-page essay using the template that is provided to you in Blackboard. Here, you will be assessed on a general understanding of issues discussed in the course. You will also be assessed on other complementary skills you ought to have acquired in MSc 1 and 2:

1. The acquisition of knowledge during the course

2. The exercise of critical and analytical skills

3. Sustained and coherent argumentation

4. Clarity in presentation and communication

5. Writing skills

The essay is worth 70% of the total grade.

Note: Although we believe that good writing skills are essential for the development of critical and analytical skills, we encourage you to look for alternative means of expression: drawing, photographing, filming etc. Alternative and complementary forms of expression are welcome.

Basic Literature

BARRETT, E , 2007. 'Experiential learning in practice as research: context, method, knowledge' Journal of Visual Art Practice 6 (2): 115-124.

BIGGS, M., BUCHLER, D, 2008. "Eight Criteria for Practice-based Research in the Creative and Cultural Industries." Art, Design and Communication in Higher Education 7(1): 5-18.

BIGGS, M., BUCHLER, D. & ROCCO, R. 2009. Design Practice and Research: Interconnections and the criterion-based approach. In: MALINS, J., ed. European Academy of Design: Design Connexity, Aberdeen. EAD & Robert Gordon University, 375-380.

CANDY, L 2006. Practice Based Research: a guide. CCS Report: 2006-V1.0 November: University of Technology, Sydney.

COTTRELL, S. Critical Thinking Skills: Developing Effective Analysis and Argument London, Palgrave.

CRESWELL, J. W. 1994. Research design : qualitative & quantitative approaches, Thousand Oaks, Calif., Sage Publications.

DAVIES, M. B. 2007. Doing a successful research project : using qualitative or quantitative methods, New York, Palgrave Macmillan

DORST, K. 2003. The Problem of the Design Problem. Expertise in Design - Design Thinking Research Symposium 6. N. Cross and E. Edmonds. Sydney, Australia, Creativity and Cognition Studios Press.

GANSHIRT, C. 2007. Tools for ideas: an introduction to architectural design. Basel ; Boston, Birkhäuser.

HEELING, J., MEYER, H. & WESTRIK, J. 2002. De kern van de stedebouw in het perspectief van de eenentwintigste eeuw. Dl. 1. Het ontwerp van de stadsplattegrond door Jan Heeling, Han Meyer en John Westrik, Amsterdam, SUN.

HILLIER, J. & HEALEY, P. 2008. Contemporary Movements in Planning Theory, Aldershot, Ashgate.

JONG, T. M. D. & VOORDT, D. J. M. V. D. 2002. Ways to study and research : urban, architectural and technical design Delft, Delft University Press.

KLAASEN, I. 2007. A scientific approach to urban and regional design: research by design. Journal of Design Research, 5, 470-489.

OKASHA, S. 2002. Philosophy of science: a very short introduction, Oxford; New York, Oxford Univ. Press.

ROCCO, R. & ROOIJ, R. 2010. Educating the Critical Urban Planner and Designer: A didactical experience in an area of practice. In: INTED, 2010 Valencia. IATED.

Index

The new "Urbanist"

How to respond to the new demands of a fast changing society

Isabela Cardoso Gonçalves Ledo
(Brazil)

AR2U090, Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2010

Abstract – This paper aims to contribute in the discussion related to the education in Urbanism, especially in a technical university environment. Although values vary among the different involved communities, there is a common sense that urbanism is not anymore a technical-based discipline only. And also that the increasing complexity of city planning and design in the present time, already requests a new kind of professional. Within this context, the question that rises is what would be the best model for educating students in such circumstances? In other words, how to take advantage of the peculiar characteristics offered by such discipline in order to get the best outcome in terms of academic knowledge? And more specifically, how to find a good balance between elements of practice and theory, both likewise essential for high academic standards achievements? To answer these questions, posed on the agenda of educational institutions not so long ago, I take as an example the MSc program in Urbanism at TU Delft, the Netherlands. After a brief introduction about the new questions posed on the field of urbanism, as a consequence of the world's fast urbanization phenomenon in the last few decades, the new methodological approach implemented in the mentioned course is concisely described. Then, a critical analysis, based on my personal experience as a master student in the same program, is drawn. The conclusion and recommendation that follow give respectively an overview of the issues previously discussed and some practical suggestions in order to achieve the desired outcomes, in accordance with the new demands of the society.

Key words – Academic standards; city planning and design; education in urbanism; educational methodology; new urban question(s), practice and theory; MSc program; TU Delft; urbanism

1 Introduction

In the last few decades, cities of the world have witnessed a rapid growth in their population number as never seen before. In 2008, the United Nation reported that, for the first time in history, half of the world's total population, about 3.3 billion people, were already living in urban areas. Within this scenario, the scope of professions such as urban planning and urban design has become much broader and complex. In this sense, a set of new issues, not anymore restrict to the traditional practice of urbanism, has being having great influence on the plans drawn for those areas.

However, this is not a challenge for practitioners only. Also academics are currently struggling to position themselves in this new context. And more, they are in search for a model to educate urbanism students in accordance with these new circumstances. Regarding technical universities such as TU Delft, and in special the courses which are not related to physical sciences only, the attempt to incorporate those new paradigms is already current in their agenda. And, considering that these same paradigms come from different and not only technical backgrounds and approaches, a great effort has been put on finding a balance between elements of practice and theory in order to generate proper knowledge with high academic standards.

The importance of defining a new and suitable methodology for teaching in the field of urbanism, as well as in other related disciplines, lays on the fact that the increasing complexity of city planning and design in the present time, already demands a new kind of professional, aware of the interrelation among all different kinds of disciplines necessary for achieving a common state of welfare in cities all over the world, in all its senses.

2 The New Urban Question

The current world's fast urbanization phenomenon, strongly supported by some recent globalization trends, has brought new parameters to every city life. As a direct consequence, its inhabitants are confronted with new urban issues, especially associated with social, economical and environmental matters.

Unlike what happened in previous times, the majority of the future population growth is expected to take place in small and middle size cities, with a maximum of 500.000 inhabitants. If we consider the fact that the average life quality is very much dependent on these same cities (Rosemann, 2009), a great amount of support and energy must be directed to these areas.

In developing countries, another new issue to consider is the growth of population not only in urban but also in rural areas as a result of a substantial improvement of their health system quality. In developed nations, another question is how to manage the influx of people to suburbia without damaging the cities' economy with the loss of taxes income (Rosemann, 2009).

Regarding the social and economical issues, the term 'Dual City' (Castells, 1995) has emerged to give a name to the socio-economic polarization posed by the latest version of Capitalism based on the haves and have-nots and on a strict divided labour market (Rosemann, 2009). Surprisingly, this phenomenon is present in both, developing and developed countries and has its reflection on the physical organization of the cities through a visible spatial segregation. Also the new term 'Metapolis' (Ascher, 1995), in opposition to the well known 'Metropolis', describes a radical change on spatial hierarchy once the location of enterprises has become "footloose", especially the ones based on ICT services (Rosemann, 2009).

Needless to mention is the big impact of this fast urbanization on the natural environment. With regard to urban planning and design, and also to architecture, the last century modernist assumption that a generic design would fit with every environment, despite local conditions, did show to be unrealistic and very harmful everywhere it was implemented.

Needless to mention is the big impact of this fast urbanization on the natural environment. With regard to urban planning and design, and also to architecture, the last century modernist assumption that a generic design would fit with every environment, despite local conditions, did show to be unrealistic and very harmful everywhere it was implemented.

3 The Urbanism MSc Program at TU Delft

Regarding the organizational structure of the course, the Department of Urbanism is currently divided in different chairs, eleven in total, each of them with its own worldview and therefore with a specific opinion and approach towards the different urban issues.

In response to all the topics mentioned above, and to many others, the Urbanism MSc program at TU Delft went recently through some changes in its educational structure. The new methodological approach is called 'Research by Design', and attempts to conciliate both theoretical research and design practice in its scope. The design aspect relates to the practical part of the course - the so-called R&D studios - where creativity, spontaneity, craftsmanship and other practical skills are to be developed. The research part of the studies - the theory and methodology courses - aims to raise the students' awareness about the existing body of knowledge within the discipline of urbanism, which often dialogs, and every time more, with other disciplines based on functional research paradigms such as human geography, economy, sociology and others (Rocco and Rooij, 2010).

In addition, it is supposed to provide some theoretical framework, which facilitates to position the design practice not only in an academic, but also in a realistic context.

In short, the urbanism course at TU Delft takes the position that research and design practice should not exclude but complement each other since, in the field of urbanism, both cannot

individually speak for themselves. Moreover, in both cases students are stimulated to develop their critical thinking, essential for a rich academic and also professional debate (Rocco and Rooij, 2010).

4 General (personal) reflections

Aiming on a reflection about the new position of educational institutions on teaching students in the field of urbanism, the following considerations are based on my personal experiences as a student in the MSc Urbanism program at TU Delft.

Generally speaking, I do agree with the position taken by the academic community as a whole in acknowledging and putting in practice a new educational methodology in accordance with the current demands of our society. Thus, I also share the opinion that it is not possible anymore to restrict the knowledge in urbanism to technical solutions only. And that, as a consequence, design practice and theoretical research must have an integrated and complementary role within this new context. Although I do identify in the course that the same importance is relatively given to these two directions, in my point of view, and looking back at the final results of the students in general, including mine, they are not yet integrated. In the R&D studios, for example, many of the final designs are mostly justified though rhetoric and nice visual representation rather than actually based on deep (traditional or non traditional) research fundaments or theoretical frameworks.

Regarding the theoretical part of the program, in order to achieve high academic standards, the students are, since the beginning of the course, stimulated to write in accordance with academic parameters. Even though this position might be appropriate in a masters degree level of education, at the same time it assumes that all students have the same studies background, which is absolutely not true.

In fact, the only issue within the new program, which for me remains unclear, relates to the differentiation among the chairs in the department of urbanism. Although it is claimed that each of them has a different worldview and therefore a different approach towards the subject, for me this distinction is quite subjective and sometimes blurred. Besides that, considering the important fact that in the second of the two study years, the students must choose for a direction to follow, in other words, a chair that best suits with their ideas and concepts to be developed in their graduation project, there is an urgent need for some further clarification about the mentioned organizational and ideological structure.

5 Conclusions

In view of the dimension and complexity of the changes so far implemented in the MSc urbanism program, and baring in mind the traditional academic environment where they take place, I believe it will take still some time till all of them are finally incorporated to the system. Yet, considering that urbanism itself is a discipline in constant change, this methodological re-evaluation and re- adjustment will probably happen more often as the world changes faster every time.

Because of these rapid changes as well, it seems that academics and practitioners do not have yet a clear position within this new context and, in the specific case of the urbanism department at TU Delft, the organization in different chairs remains, personally speaking, not very well defined. Clarifying them as soon as possible will probably facilitate the students' decisions about which direction to take regarding their own worldview development.

Another issue to consider, which also gives some complexity to the process of achieving high academic standards on educating students at a masters level, is the fact that depending on every student's background there will be more or less need for a methodological academic orientation and therefore different expectations and outcomes.

6 Recommendations

In order to minimize the misunderstanding about the structure of the urbanism department with its diversity of chairs and worldviews, it would be helpful to introduce them in the very beginning of the course as a kind of 'eye opener' for all students in general, which would start getting already familiar with these differences.

For the same reason, I would also suggest to have the 'Research and Design Methodology for Urbanism' course in the first quarter of the first master year as a way to raise the students' awareness about the existing body of knowledge within the academic environment as well as to provide enough basis and guidelines to the ones that for some reason did not developed the necessary skills on previous learning experiences.
In relation to the still existing mismatch between practice and theory, in order to maximize this relationship, the students should be even more stimulated to base their assignments, especially their designs, on updated theoretical concepts.

References

ROCCO, R. & ROOIJ, R. 2010, Educating the critical urban planner and designer: a didactical experience in an area of practice, Department of Urbanism, Delft University of Technology, Delft.

JONG, T.M.D. & VOORDT, D.J.M.V.D. 2002, Ways to study and research: urban, architectural and technical design, Delft University Press, Delft.

ROSEMANN, J., QU L., SEPULVEDA D. (eds) 2009, The New Urban Question. Urbanism beyond Neo-Liberalism, International Forum on Urbanism [IFoU], Rotterdam.

CASTELLS, M. 1995, La ciudad informal, Alianza Editorial, Madrid.

ASCHER, F. 1995, Métapolis ou l'avenir des Villes, Editions Odile Jacob, Paris.

Educating Urbanism

Academicisation of a multidisciplinary course

Adriaan Stobbe
(The Netherlands)

AR2U090, Meyhodology for Urbanism

Delft University of Technology, Department of Urbanism

May 2010

Abstract – Urbanism is a complex academic discipline, which deals with a broad scope where much interaction with other disciplines is taking place. The main goal of this paper is to get a grip on the way urban planning and design is educated at the TU Delft and to describe a kind of education for this multidisciplinary field of study which will be suitable to achieve academic standards. By reflecting this to the current education on the Department of Urbanism some recommendations will be formulated. The paper is based on relevant literature, information provided by the Department of Urbanism and my personal beliefs and experiences with 3½ years of study at the Technical University of Delft.

Key words – Academic, design, multidisciplinary, MSc, research, theory, TU Delft, Urbanism, values, worldview

To Introduce

At the Faculty of Architecture of the Technical University of Delft, in the Netherlands, one master track is dedicated to urban design and planning. In the Netherlands they invented a new English term to merge both disciplines in one word: urbanism.

In the mission statement of de Department of Urbanism (TU Delft 2009:4) one can find that Urbanism is an academic discipline, which aims to "understanding the spatial organization and dynamics of urban areas". This quote suggests that urbanism is a rather complex discipline. After all, to really understand urban space en dynamics it's inevitable to come in contact with many other diverging disciplines from economy and sociology to politics and civil engineering (Rocco & Rooij 2010:1).

A result of this complexity is a very heterogeneous department with not less than 11 chairs, each with their own so-called worldview. These different perspectives, from which one sees and interprets the (urban) world, makes that the department of urbanism can cover the entire urban spectrum. One important aspect of these different chairs with their worldviews, and it will be brought up later in this paper, is the relation between text and image, or as you could convert between research oriented education and design/practice oriented education. It is this relationship that is the cause of a heavenly debate inside the Faculty of Architecture, but in general goes for the entire creative industry, which revolves around the question if a creative study, especially when they emphasize the practical or designing part, is achieving academic standards.

The reason for this indistinctness (is designing academic?) is a result of the many differences with other mainly traditional and scientific disciplines. In contrast with for example chemistry (also with a dominant role for practice) it lacks objective qualification criteria or a firm set of tools to solve clear problems.

The Faculty of Architecture (and so the Department of Urbanism) is obviously trying to decide the debate in its advantage by putting in the fore the process of academicisation. This process is for example noticeable in the Bachelors (first three years of education) where the criteria for the final paper were increased drastically.

The writing of this paper is a didactical exercise to make student think about this relevant subject. To let them discuss it with others, to read about it and to finally form their own opinion and take position in the debate about the academic level of urban education.

To Define : Urban education at the TU Delft

To understand the education of today and to look forward to the future it's essential to know your past. In 'Deining in Delft' (Steenhuis 2009) the education of the faculty of architecture is described since the end of the 19th century. Because it wouldn't fit in this relatively short paper only some key elements from the history can be highlighted. Quite important is for example the background of the faculty.

The faculty has always been part of a technical environment; first at the Technical College, later at the Technical University. The esthetical approach of designing and engineering determined the identity of the faculty increasingly as being the odd one out. In 1947/'48 (during the post-war reconstruction) the Department of Urbanism was erected. For the first twenty years this subject was only a short specialization of a year after a four year architectonic training. Many urban designers and planners from that time were mainly educated as architects. After 1968 this changed, Urbanism became a full department and pure technical courses had to make way for more urban-related (urban history/theory, planning) courses.

Because the view about Urbanism too shifted from a mainly technical discipline towards a vision about the city as a growing organism with several historical layers the input from other disciplines grew and Urbanism developed itself to a discipline with a multitude of influence from other fields of study. This process is still running, as the new chair 'Urban Design and Politics' shows us.

Nowadays, the master track of Urbanism consists of a 120 ECTS (1 ECTS involves 28 hours of study) program divided over 2 years. During this first year students are following three design studios, each 10 ECTS and several other courses are flanking this structure, none of them larger than 5 ECTS. In the second year the graduation project takes in a dominant position.

In the graduation year, each student needs to choose a graduation lab with one of the eleven chairs of the department. As mentioned in the introduction the worldview and thereby the character of these chairs differs in the way they value design and research. On the website of the Department of Urbanism (www.urbanism.nl) one can find the names and set-up of the chairs. Judging from this information (I haven't experienced one of the chairs myself yet), there seems to be three kind of chairs. Those who are design orientated (for example urban design), research orientated (for example spatial planning and strategy) and those who seem to be a more or less balanced variant (for example landscape architecture or design and politics).

An important goal of the Department of Urbanism is already mentioned in the introduction, namely "understanding the spatial organization and dynamics of urban areas" (TU Delft 2009:4). A more general goal for the entire faculty is the ambition not only to pass on knowledge to her students, but to develop knowledge itself as well and to make this transferable to realize exchange of knowledge with institutes all over the world.

To Argue: For a suitable form of education

To summarize the previous sections; Urbanism is a complex discipline with a decreasing relation with the technical and solution-oriented design-education and an increasing interaction with other disciplines. This exchange of knowledge between different fields of study is, in my eyes essential to attain the goals of the Department of Urbanism to understand the urban context and her dynamics. It's vital to communicate and learn with people with another background to come in contact with other worldviews. By means of inter-faculty or interuniversity courses this interaction can be facilitated.

The complexity of our field of study and the lack of qualification criteria and a firm set of tools in practical education also demands a process of academicisation as mentioned in the introduction. In their paper, 'Educating the critical urban planner and designer: a didactical experience in an area of practice' (Rocco & Rooij 2010:3) the authors are arguing for this development: "The necessity of academicisation arises, in our context, from the perception that a practical education on design skills alone is insufficient to deal with the broader task at hand: understanding the context (....)"

Students and professionals need this academic attitude to deal with the uncertainty of urban design and planning, to develop a set of tools (methods) and to be able to ask the right questions in order to find the actual problem. To achieve this academic attitude one should be objective, critical and explicit.

Students and professionals need this academic attitude to deal with the uncertainty of urban design and planning, to develop a set of tools (methods) and to be able to ask the right questions in order to find the actual problem. To achieve this academic attitude one should be objective, critical and explicit. Not only in doing research or analyses but especially in design as well. To be explicit about the steps a student of professional makes, about the references that they used and the underlying idea; why this reference/ decision and in what way they adapt these references or theories. By doing this a designer can make its process and design transparent, retrievable and thereby make it able to criticize.

When the audience (students, professionals, from the same or other disciplines) can criticize research and design activities they are able to qualify these activities. This qualification is necessary to settle the debate which was mentioned in the introduction about the relationship between practice oriented education and research oriented education.

What is essential about this relationship is the interdependence of both. Especially in educating urbanism this concerted action between research and designing or text and image is vital to understand the actions that have been made. In their article about practice-based research (PBR) Biggs and Büchler (2008:13) discuss this relation of text and image and labeled it as being one of the eight criteria for practice-based research, a type of investigation in order to gain new knowledge by means of practice. This way to study is highly appropriate for educating urbanism because of its academicisation of designing as a tool for research.

To summarize, educating Urbanism should contain a multidisciplinary approach, a clear set of assessment criteria to qualify all the activities and a structure in which both design and research are highly (not per definition equally) valued to be complementary. Both designers and researchers will need to develop academic skills (write, analyze, observe, draw) and awareness (developing knowledge, ethics) to contribute to and use the available knowledge. In my eyes, this kind of education, where both the interactions with other disciplines and the developing of academic skills and awareness are present, can be able to achieve the academic standards where the Department of Urbanism strives for.

To Reflect: Current education

A brief overview of the master track of urbanism is already given in the second section of this paper. Without being able to use experiences about the way the education is actually functioning this section will reflect the way urbanism is educated.

The multidisciplinary approach as intended in the previous section is definitely present in the current education. The 11 chairs are covering the wide context of urban live. The master track is dealing with several scales, from the public space of a street till the interregional relations between cities and the big metropolis of the world. Students are taught in history, urban theory and methodology and get guidance during the design studios. Thereby the wide range of different disciplines is interacting with the program. Student can participate in courses that handle for example ecology issues, social or political processes, landscape architecture or can use GPS-devices to track urban movement.

As mentioned in the introduction, the Faculty of Architecture is making an effort to achieve higher academic standards. In the Bachelor this is noticeable in the final paper were student get examined on their writing skills, their capability to reflect a design and its process and to develop generic knowledge. Methodology courses try to make students aware of the importance of being systematic, critical, explicit and objective. These didactic processes do not stop outside the specific classrooms. During the design-projects students are encouraged to use their young academic skills to strengthen their designs.

In the master track it seems that these processes continue. Besides the design studio's which cover 30 ECTS (of the 120 ECTS in total), in the first three semesters four subjects are dealing with the history, theory and methodology of urbanism, 17 ECTS in total. In the first semester of the second year, the graduating year, methodology is strongly present in two courses (Thesis Plan and Theory of Urbanism) both intended to prepare the student for its graduating project. Both the development of academic skills and awareness is thus given attention

at the faculty. In the graduation lab these skills are then used to do your final (for example) research by design, depending on the chosen chair.

To Conclude

Based on the current education and the way that suitable education is described in this article, one could get the idea the current education is suitable and recommendations aren't necessary. However there are two points of issue.

Because of the broad scope of urbanism, a student isn't able to get a grip on all the different worldviews within the Department of Urbanism. Thereby the department facilitates different courses (electives) where much interaction is taking place with other disciplines. I think it would be enriching when the elective quarter (the fourth and last of the first year) would be change period with the third quarter where the last design studio will take place. At the design studios students work in groups together to find solutions in design by doing research. When student would have had their elective quarter first, they would all have different packages of methods, knowledge and worldviews which will result in a very interesting jumble with interaction between different influences.

The second point is the inexperience of the author that makes it difficult to give a clear judgment about the way urbanism is educated in the masters and about the role that design and research have in the different research and design studios since I haven't participated in any of them. Not yet.

To Refer

BIGGS, M. & BÜCHLER, D. 2008, Eight criteria for practice-based research in the creative and cultural industries. In: Art, Design & Communication in Higher Education. Vol:7(1), 5-18

DEPARTMENT OF URBANISM 2009, Mission statement and chair plan. Faculty of Architecture, Delft University of Technology

DEPARTMENT OF URBANISM 2010, Chairs. Available from: www.urbanism.nl/Organisation /Chairs [Accessed on 3 May 2010]

ROCCO, R. & ROOIJ, R. 2010, Educating the critical urban planner and designer; a didactical experience in an area of practice. Faculty of Architecture, Delft University of Technology

STEENHUIS, M. 2009, Deining in Delft: Contouren van het architectuur- en stedenbouwonderwijs 1900-1970, Schiedam; Urban Fabric

Activating Awareness

Emphasizing the qualities of individuality within the Urbanism program

Saba Golchehr
(Iran/The Netherlands)

AR2U090, Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2011

Abstract – In the field of Urbanism at TU Delft there is a search for balance between theory and practice, between research and design. In the new MSc Urbanism (introduced in September 2009) all different design approaches and project scales are put into a clear program stretched over three quarters. Nevertheless it is a difficult task to find a system that is appreciated by both students and mentors. To find balance within the stretched scope of urbanism, I think it is important to personalize the education in the MSc program. One of the interesting aspects about the composition of the department of Urbanism is its multitude of diversity when it comes to peoples origins. Each of the students (and mentors) have a different background, a different story, and with that a different world view. This diversity can be put to use by learning from each other and therefore enable us to better form our position and find our uniqueness in this very broad field we call Urbanism. So how can we reach this new awareness? In the following paragraphs I will argue that the answer to reach an academic education, that preserves quality and prepares individuals on their professional life as specialists in the field of urbanism, lies in a more personal approach in their academic training.

Key words – Research and Design; world view; awareness; graduation Gap

1 Introduction

'Cogito ergo sum', this famous statement of the philosopher René Descartes posits the notion the individual subject distinct from the world around him or her. "I think therefore I am."

With this statement I introduce my position on the education in Urbanism on TU Delft. This essay is about the experience I personally have had in the education and the opinion I formed about the MSc Urbanism program.

In the Department of Urbanism of the Faculty of Architecture, the Netherlands, both the academic staff and the students acknowledge the importance of upholding high academic standards in the educational program. However, because Urbanism is not a pure discipline, but one that draws inputs from a myriad of other disciplines, i.e. the social sciences, the physical sciences, and very particularly, design practice, a debate arises about the nature of the education offered. (Rocco et al, 2011)

Our profession sounds quite passive I would even say. Are we mere a mediator in the battles between the differing political agendas? Does our task end at the spatial transformation of the demands of the ones who hold the power?

The field of urbanism is so broad that it's difficult to position oneself in a clear place from where one can form an opinion and explore ones interests. But to be able to explore what this position is we need a clearer understanding of the borders of our profession. Where does the task of an urban designer or planner end? And of equal importance: where does it begin? What is the scope of urbanism? We need to form an awareness about our discipline from where we can start to explore ourselves, our interests, our world view and our future prospects in the professional world.

2 Urbanism: the Discipline

Urbanism is a highly relevant discipline today. Because the world is urbanizing quickly, there is a high demand for professionals who can deal with the planning and design of cities, taking into account a multitude of problems that are interconnected. Because of the increasing complexity of the urban phenomenon, urbanism has evolved into an inter-disciplinary field of studies. It draws inputs from a variety of disciplines in the physical sciences, the social and the behavioural sciences and the applied sciences. (Rocco et al, 2010)

In this complexity we try to find an understanding of cities. But trying to understand the city by making simplified models of it is not the answer. We need to accept that all the factors that have an effect on a city are not all to be measured and controlled by us. That leaves us questioning what our task is in this discipline. And with that what the goals of planning are.

According to the Professor of Spatial Planning and Strategy Vincent Nadin, our discipline is described as;

1. Making interventions in very complex urban environments;
2. Planning process is interactive, not linear;
3. Planning deals with (territorial) governance as well as government;
4. Planning seeks to influence not control;
5. Planning creates territorial governance spaces for decision making. (Nadin, V. 2011)

From this I conclude that a planner should be a mediator. It is a person who can manage different parties and stakeholders, so that together they can achieve a successful decision making process on spatial issues.

I agree on these tasks of a planner that professor Nadin describes. However I wonder if this 'list of requirements' fully defines our discipline. Our profession sounds quite passive I would even say. Are we mere a mediator in the battles between the differing political agendas? Does our task end at the spatial transformation of the demands of the ones who hold the power? Of course I exaggerate in this simplification of the tasks of a planner, however the point I am trying to make is: Where does our world view and our personal opinion emerge in this planning process? For me this is an important factor in the requirements of a planner, because it distinguishes us from simply being problem solvers.

In the complexity of the urban environments, which professor Nadin indicates, we need a greater understanding about the interventions we make. The effects of these interventions are always bigger than we can steer, therefore we need a realistic world view and a vision about future developments.

3 The R&D program

The program of the MSc program exists out of four semesters. The first two semesters have a fixed program of 45 ects (European credit transfer system), and a free choice program of 15 ects. The third and fourth semester are reserved for graduation.

The MSc1 and MSc2 courses consist of 4 quarters. In Q1 the program exists out of a research & design studio (10 ects), a history & theory course (4 ects) and a practice of urbanism course (1 ects). The theme of this quarter is: 'Analysis and Design of Urban Form'. This quarter focuses on the scale of the city and the project approach consists out of 'intuitive design'.

The Q2 program 'Socio-Spatial Processes in the City' focuses on the question of urban transformation and regeneration. The project approach of this quarter is 'research driven design'. The composition of this quarter is similar to the latter, that is again a research & design studio (10 ects), a sustainability course (4 ects) and again the practice of urbanism course (1 ects).

The last quarter of the fixed program (Q3) exists of a project on the largest scale. The theme of this quarter is 'Spatial Strategies for the Global Metropolis'. This quarter exists of two

courses, again the research & design studio (10 ects) and a methodology course (5 ects). The R&D studio is coordinated by the chair of urban design and metropolitan & regional design. In this quarter the approach of 'research by design' is applied to the project.

The R&D program of these quarters shows a variety of themes, scales and project approaches, so that a large set of skills can be taught in a short period. But are these aims of the quarters successful? Are the goals that were set for each R&D studio achieved? The set-up of the R&D program is to use a different design approach in every quarter. According to this program every R&D design studio is offering a theoretical framework and uses different design tools.

The Q1 project has as project approach of intuitive design. The chair coordinating this course aims to build a theoretical framework which enables us to consider present day and future urban design approaches. The tools they offer are analysis and visualisation tools: montages, analysis and visualization workshops and 3D modelling as a form of research and communication.

The Q2 project, socio-spatial processes in the city, aims to develop knowledge with respect to social developments. The project approach in this course is research driven design. Design tools they offer are a plan cycle- and a social sustainability workshop.

The course spatial strategies for the global metropolis (Q3) has as a project approach, study by design. This course is offering a theoretical framework of urban theories via seminars. Besides this framework it is offering design tools for strategic interventions with landscape architecture tools by means of seminars.

The aim of the MSc Urbanism program is to develop core knowledge and skills as a basis for innovative practical and theoretical applications. The studio program is to provide designers with typological knowledge and insights into urbanism tools and techniques.

I think the least successful aspect of these quarters is putting the theoretical approaches into practice. These theoretical approaches being: intuitive design, research driven design and research by design. The integration of these approaches within the studio work needs a more detailed description, so that mentors in the studios know how to handle these themes and how to support students in their projects.

In all the quarters the seminars and workshops which are held to support the theoretical approaches seem not to be working on a parallel level with the R&D project.

4 The Graduation Gap

In the MSc program of Urbanism the first two semesters are divided in four quarters where all the different scale levels and design approaches are touched upon.
After this 'introductory' year the graduation program starts. The first few weeks exists of an orientation phase, and after this the graduation project starts.

I have come to believe that there is a gap between this first (MSc 1 & 2) and second year (MSc 3 & 4). There is a big difference between the quarter projects and the graduation project. First of all there is the timespan in which the project takes place. In the R & D studios of the first year the projects are planned over a period of six weeks. This causes the projects to be highly strategical but poorly under built by theory. Whereas the graduation project takes minimally a year. In this longer period there is a stronger emphasis on a theoretical basis which is in line with the design task.

A second cause for this gap is a lack of introduction into the themes of the graduation studios during the first year.

There should be a stronger emphasis in the development of personal skills and interests in the Urbanism program. The Urbanism Master cannot be compared to the other Master programs within the faculty of architecture. In the R & D studios finding the right design task is up to the students. If we compare them to other design projects, for example in the architecture studios, we find big differences in individuality and interests.

In the architectural projects there are more facts and guidelines provided in which one should define the problem. There is (in most cases) a fixed location, a fixed number of square meters to be built, a fixed program, etc. Whereas in urbanism studios the only thing that is fixed is the approach and the scale level. It is up to the student to make a strategy, find a location, set guidelines, create a program, and so on.

Basically in terms of 'framing the assignment' there is more freedom in the urbanism studios. But because of this freedom, it is even more important to form ones position in this field in an early stage, so that this position can be tested and become sharper with each project.

Linking this position to the graduation studios should be the next step. To help students in choosing a graduation project, these positions should be placed in a theme of the graduation studios. So students will know what direction they are heading towards before the graduation program starts.

5 International Awareness

As I mentioned in the introduction, one of the most interesting aspects about the composition of the department of Urbanism is its multitude of diversity when it comes to peoples origins. We are a group of students and mentors with different backgrounds, and we each have different world views.

This beneficial aspect should be put to use in the educational program. The academic program could transform into a more dynamic and interactive way of learning and teaching. Learning from each other brings a whole new dimension into the academic program at the faculty. As for urbanism: Globalisation is a big topic in our discipline, so why not use our own globalisation at the faculty as a teaching tool?

As urbanism students I think it is of great importance to have an awareness on an international scale. We should know what happens around us, not only within the borders of our own nation, but on a worldwide scale. By creating a platform in which there is room for students to present their background and world view, and let all students debate about these views

and other related topics, we are able to create an interactive learning environment and achieve an international awareness among students.

'We explicitly encourage debate and critical thinking among students. We provide students with the opportunity and confidence to participate and be critical. Part of our system of values is that the debate of ideas and knowledge is highly valued. Constructive and respectful debate is welcome.

It is a condition for a rich academic environment. Students are already encouraged to present and discuss their work intensively, but we need to extend this attitude to all components of the education.' (Rocco et al, 2011)

6 Conclusions

The central question of this essay is: how can we reach a new awareness among students?
First I evaluated the R&D program, to discover if this educational program is as successful in practice as it looks on paper. Reflecting on the goal of the R&D studio to develop critical skills, tools, values and knowledge, I think that the tools and design approaches are not carefully addressed.

The different design approaches which are handed out as a tool to approach each design studio with a different goal, are not translated well by mentors. Therefore students often don't get a clear idea of the task that they assigned for. The translation of the theoretical idea for the R&D program to the actual practice of it is lacking.

To come back to the central question of creating awareness, there are some qualities at the Urbanism department which are not being used fully in the educational program. The quality I addressed earlier is the diversity of origins within the department of Urbanism. This aspect could help us create a more interactive learning and teaching environment.

7 Recommendations

The goal of the Master course is to provide designers with a topological knowledge and insights into urbanism tools and techniques. The specific aim of the course is to promote a dialogue between different qualifications offered by the department of Urbanism of the TU Delft, by proposing a dialogue between different world views, with their different values, requirements and expectations. By acknowledging that there are different value systems in different fields of Urbanism, we can start to address
the specific requirements of each community. (Rocco et al, 2011) These goals are not yet reached entirely by the education in the Master course. There is especially room for improvement in the proposition of dialogues between different world views. This aspect should be approached in a more personal way of education, a course where there is an emphasis on dialogues and discussions.

There should be a platform in which different students and mentors with different backgrounds can share stories about their country and cities of origin, so that everyone will get a wider world view and so that an international awareness can be awakened.

References

DEPARTMENT OF URBANISM 2010, "Quarter Guide 2010-2011 City and Landscape ", Delft.

DEPARTMENT OF URBANISM 2010, "Quarter Guide 2010-2011 Socio-spatial processes in
urban societies", Delft.

DEPARTMENT OF URBANISM 2010, "Quarter Guide 2010-2011 Spatial Strategies for the Global Metropolis", Delft.

ROCCO, R. and ROOIJ, R. 2010, "Educating the critical urban planner and designer: a didactical experience in an area of practice." Department of Urbanism, Delft.

New thinking in Urbanism

Reflections on the mode of image and literature thinking in the research of urbanism

Jing Feng
(China)

AR2U090, Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2011

Abstract – The education of urbanism in TU Delft offers student a chance to combine research with design. With the help of research, we are able to convince others as well as ourselves how the plan and design come out and how will they make changes in urban environment in the future. Among the many methods, literature study is a frequently used one. It is not only a resource but also a transformation for urbanists from the mode of image thinking to literature thinking. As an architect or urbanist, we are so getting used to the mode of image thinking, however, the introduction of more literature thinking mode in research might bring more benefits and potentials to the realm of urbanism. In this paper, first I would give a general view of the position of research in urbanism; second, the relation of the mode of image thinking and literature thinking will be discussed; third, a literature study case in quarter 3 would be shown as an example how research benefit urbanism education in TU Delft.

Key words – urbanism, research, the mode of literature thinking, literature study

1 Introduction

I would like to start this paper with a story I heard from my roommate who is a master student of architecture in TU Delft. She jointed a studio in architecture with some students from civil engineering in her group. During one supper,she began to tell me her special experience working with students with an engineering background. As we all know that, most of the time, architects and urbanists communicate with all types of images, like sketches, maps, plans, perspectives, etc.

My roommate began to evaluate from the view of an architect, she was astonished by the work from her group member, that they use totally literature written on papers to illustrate their analysis and design ideas. Moreover, the engineering students complained that there are no literature in architecture books compared to books full of words and calculations in engineering books, they considered those architecture books with endless pictures and drawing as photo albums rather than academical book for research and design.

The purpose of research in urbanism is to 1) understand urban conditions from other viewpoints like social, history, economic, culture, etc; 2) find urban problems on the spatial level; 3) provide a framework for design and planning. It doesn't mean research in Urbanism will be easier or harder, but urbanists need their own way to research.

We laughed at the strange behaviour and thinking from engineering students for a while, however, that laugh might also be given to ourselves that we architects and urbanists seem to be constraint in the world of images that we have somehow lost the ability to communicate with literature, because we take for granted that my drawing will tell you everything.

During the methodology class, literature study is consider to be one of the most important method for research in urbanism. However, from my own experience, after submerging in the image world of design for 5 years, I became too lazy to read large amount of literature materials, since images are so easy to see and the information will be directly and quickly reflected into our eyes. I purposely use the word of see instead of read, aiming to show that we actually are using different methods to absorb knowledge and information when we realize whether it's image or literature in front of us.

Of course, literature study is just among many of our research methods. However, in this paper, I will concentrate on literature study as an example to rethink the position of research in Urbanism. Since urbanism is a complex field with many interactions with other fields of study, such as economics, history, sociology, politics, etc, all of which are presented in literature study if we want to join these disciplines into the research of Urbanism.

In this short paper, I would like to bring some new thinking to the research in urbanism as follows:
First, a general view of the position of research in urbanism will be presented. In this chapter, I would like to illustrate my understanding process of research in urbanism and several benefits we can get if we do research in urbanism.

Second, the relation of the mode of image and literature thinking in the filed of urbanism will be discussed. A literature and urbanism workshop as my own experience will show the interesting relationships between literature thinking and image thinking.

Third, a literature study case in Quarter 3 will be used as an example of how research can benefit urbanism education in TU delft.

2.1 The position of research in urbanism

With rapid urbanization around the world, urban has become a huge organic complex with millions of people and nonstop social, economic and cultural activities which happened in concrete physical spaces. So, urbanism is a discipline to study both the physical and non-physical issues in urban environment.

Normally, the end product of urbanism student is a poster hanging in halls of urbanism studio with different drawing from analysis to design and planning. For the public, urbanism is considered as a practical profession, mostly because they only see the emergence of building, tram tracks or a new shopping street, but ignore the reason why and how these spacial changes happened. And that "why" and "how" is the research result in the field of urbanism.

During my bachelor study, all we do is make drawing, so I thought for the rest of my life, I will sit in front of computer making endless drawing. Then, a lecture by the famous American landscape architect Martha Schwartz changed my mind, she said in her studio, they spend more time on research than on a design and they enjoy the process of research though it is not all directly reflected on the final design projects.

So I began to be curious about research in my future study and career life. I happened to join a theatre group with some scholars in the field of anthropology, literature, ideology and history in Beijing. I found that they all read much much more books than I did, though I am much younger than them, and their research products are normally several books with each over 200 pages. During the communication with them, I realize research is not an easy stuff which needs years of silence efforts.

However, research in urbanism is quite different from other disciplines. Because what we are trying to study is complicated city with constant changes all the time rather than a specific topic with all the historical materials hidden in the library. The purpose of research in urbanism is to 1) understand urban conditions from other viewpoints like social, history, economic, culture, etc; 2) find urban problems on the spatial level; 3) provide a framework for design and planning. It doesn't mean research in Urbanism will be easier or harder, but urbanists need their own way to research.

Following the research question and sub-research questions, it is easy for us to concentrate on a certain theme to study otherwise we might get lost with chaos. Also writing down research framework is convenient for communication

and collaboration both within and outside the group. Moreover, research provide a chance for urbanists to better understand the outside world with a broader view when stepping into other fields of study. Finally, doing research in urbanism will promote more inter-discipline communications. Since urbanism naturally needs help from research in other fields. Research in urbanism will let others know what urbanism concerned about and what they can provide for the improvement of urban study in a long term.

2.2 The mode of image and literature thinking in Urbanism

As mentioned in the engineering joke in the beginning of the introduction, like architect and unlike other professions, urbanists tend to communicate by images, like sketches, all sorts of maps, master plans, perspective and other drawing rather than literature. So, high English academic writing skills is not acquired as other majors do when

I applied master program in both America and Europe. I have to admit that in the field of urbanism, we use the mode of image thinking more often than the mode of literature thinking, but it doesn't mean image thinking mode is more important. Actually, it would be much help if one can combine image-thinking mode with literature thinking mode during the study of urbanism. If image can represent a film, then literature would be the book. Film is more vivid and direct to show on the screen the story in the novel. But this direct way eliminate the infinite imagination and happiness of reading black and white characters in the book. As it is often said, the simpler the more possibilities. Both film and book can tell a good story in their own particular way. The key point is which one is better at each specific stage.

In the first quarter, I joined a workshop about literature and urbanism. First, the tutor gave us a chapter of some literature related to a city – novel, news, descriptions, etc. Then, we tried to change the abstract letters into ---drawing through our imagination. After that, we changed drawing and began to wrote a story based on the drawing. The outcome is quite interesting, you can realize that your drawing were translated into another totally different story, but the new stories were full of imagination. Some wrote a funny phone talk, some wrote a fairy tale, and some even wrote a detective story happened in New York. We all had fun in that day, from then on, I began to think about the relationship of literature thinking and image thinking in the realm of urbanism.

Literature thinking mode in urbanism might open new possibilities. Invisible Cities is a very popular literature for urbanists that every time I want to borrow it from the library it is always under someone's name. I only read the Chinese version, the feeling that you build up variety of cities through the space between black and white reflected on papers is amazing, which is much better than showing a picture of the city.

Here, the mode of literature thinking which contains all sorts of literature types on a broad scale, from art works to academical papers, even to daily narrative, might be an new experiment in the future for urbanism. As a student of urbanism, we have been using literature study as a method of research. Next, I would like to show an case how literature study benefit our work.

2.3 Literature study case as a research method in urbanism education

There are many research methods in the education of urbanism in TU Delft, among which literature study is the frequently used one. Now, I will illustrate how literature study worked in quarter 3 as an example to show how the research influences our final product.

The R&D studio in Quarter 3 is to develop a metropolitan design for the Island of IJsselmonde with a time horizon of 2040 which consists of three parts:

1. A regional plan for the sub-region of the Island of IJsselmonde. Such a plan offers an image of a possible future and a strategy to develop the current condition into the desired direction.

2. A concept for the Randstad Holland, as the context of the plan area.

3. An associated project portfolio of crucial interventions. These projects are strategic steps in the regional development. [1]

Within different themes, our group chose water management as the starting point. An extreme flooded scenario offers us a chance to get some crazy ideas for a big change. After several discussions, we thought IJsselmonde could still function well if all the low areas are flooded while living settlements are protected by dykes as long as we can introduce in new energy and new infrastructure system. Then we began to do literature study on new energy and infrastructure.

We collected many materials, but only a few crucial ones gave us inspiration and influence our final product. For example, the discovery of solar roadway [2] totally changed our usual way of thinking of energy and infrastructure. Though Pro. Taeke M. de Jong repeatedly emphasized in Sustainable Urban Engineering Territory classes that solar energy is the future energy of the world, he even said that the moment when the price of oil equals solar energy would be a historical moment even more significant that the industry revolution. So the idea of solar roadway suddenly brought light to the future of IJsselmonde that the infrastructure system would be energy grid throughout the whole area and bring new lifestyle with a range of renewable energy. However, after a period of reading and discussion, since this new technology is still in the process of development and there are still many doubt about practical implementation. As a result, we only bring the idea of solar highway into the final masterplan but not the whole roadway system. Moreover we decided to bring diverse of new energy to specific areas, like

windmills near the sea, and biomass in agriculture area, so that every piece of land could be sufficiently used and there would be more flexible changes in the future.

We spend a lot of time doing literature study, reading engineering terms and calculating energy costs. However, there is something one has to keep in mind when doing literature study that we are urbanist rather scientist or engineers. We need to know the basic principle and characters of new energy technology but we are not expert in that field.
The more important thing for us is to think: why we bring this type of new energy to this specific area? Where can I apply that type of technology? How can the implementation come true? What could be the social and economic effect of those implementations...

3 Conclusions

The study in TU Delft offers student a chance to combine research with design. With the help of research, we are able to convince others as well as ourselves how the plan and design come out and how will they make changes in urban environment in the future. Among the many methods, literature study is not only a resource but also a transformation for urbanists from the mode of image thinking to literature thinking. Besides all the knowledge and information we can get from literature study that we can add into our considerations, literature also provide us infinite imaginations which is quite important for designers and planners. Those imaginations will not constraint us in the world of concrete images, but bring brainstorm to the fields of urbanism.

If urbanists want to deal with urban issues, then we have to understand all aspects of urban environment which will need the help of studies and research of other disciplines. And the mode of literature thinking in urbanism will make close connections with other disciplines, since not everyone communicate with images like us, and that will create more opportunities and potentials in the realm of urbanism.

I still remember in the workshop of literature and urbanism, there is a chapter from Berlarge's description about extension plan of Amsterdam in a public debate, with his vivid narrative, we could imagine the plan even without a image. And for the public, maybe it is not our professional drawing that can attract them, but some literature narratives that can depict a nice urban plan and offer everyone a chance to imagine their own city.

4 Recommendations

There is already a elective course about literature and city in the faculty of architecture in TU Delft, unfortunately, I haven't got the chance to take it. The workshop of literature and urbanism is quite interesting, however, it shouldn't be just a half day's fun. We might bring more literature thinking into the education of urbanism.

References

[1]DEPARTMENT OF URBANISM, 2011, Quarter Guide 2010-2011 Spatial Strategies for the Global Metropolis

[2]Solar roadway website: http://www.solarroadways.com/main.html

Design in relation to Research

Learning the relevance of methodology

Cunera Smit
(The Netherlands)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2011

Abstract – The relation between research and design has always been a point of discussion in our profession, because of the different worldviews and knowledge about Urbanism education. Why is it relevant to learn about methodology and research in the field of Urbanism? Urbanism is a field which covers a lot of different aspects, from spatial and economical to political and social. But what have these aspects in common and how do they relate to each other? It is a prominent element in Urbanism education and studying this, even a more important question comes to mind: What is the role and importance of research in Urbanism education? Why do research in Urbanism? This essay reflects on the role of research and methodology in the three quarters of the Master program, by looking at the learning process and relevance of it in Urbanism education. The knowledge, which students gain during the design courses, is directly connected to the way teachers transfer their knowledge. The question for this essay is how to make a better connection between theory and practice.

Key words – Master program, design and research, tools and methods, education, urbanism, relevance

1 Introduction

Urbanism is a field which covers a lot of different aspects, from spatial and economical to political and social. But what do these aspects have in common and how do they relate to each other? It is a prominent element in Urbanism education and studying this, even a more important question comes to mind : What is the role and importance of research in Urbanism education? Why do research in Urbanism?

While searching for the role of research in the general department of Urbanism education, it is important first to consider the differentiation in research orientated design. To classify the different types of design-related study, it is helpful to look at the diagram of De Jong and Van der Voordt [Fig.1]. They describe four types of design-related studies; Design research, Typological research, Design study and Study by design. These types differ from each other by the way they use research in relation to making a design.

	OBJECT *Determined*	*Variable*
CONTEXT *Determined*	Design research	Design study
Variable	Typological research	Study by design

Fig. 1 : Type of design related study defined by De Jong and Van der Voordt (2002)

2 Role of research

Using this information of types to reflect on the education of the Urbanism Master program of the TU Delft, the role of research in each quarter of this Master program can be clarified. The first quarter (Q1) of the program existed of a Research & Design Studio that was focused on the 'Analysis and Design of the Urban Form'. The different locations of the project were the cities of Apeldoorn, Haarlem or Zwolle, all dealing with the form and composition of the city, with the focus on the city scale. By taking the classification of types of De Jong and Van der Voordt (2002) into consideration, the role of research in this quarter can be seen as 'Design research'. They say that 'Design research describes and analyses existing designs with a known context, often in the form of a comparative study. For that reason it is evaluating study ex post. Not only their function is involved, but also their form, structure and the way they were made, the design tools employed in each stage and the way in which they were applied : the making proper.'

Because this quarter deals with intuitive designs on the city scale, you can define the role of research in this quarter as Design research. This is namely the most basic way to approach a design in relation to research, by analysing existing designs and using that knowledge to get a grip on the situation of the project.

The second quarter (Q2) of the Master program existed of a Research & Design Studio that was focused on the 'Social-Spatial Processes in the City'. The location for this project was the city of Nijmegen, which is dealing with urban transformation and regeneration, by the new planned ring road in the city and the influence of this operation on its surroundings. Looking at the types of design related studies as mentioned above, the role of research in this quarter can be seen as 'Design study'.

'Making a design in a relatively well known context of potential users, investors, available techniques, building materials, political, ecological and spatial restrictions, entails many stages of a type of study termed in this book 'design study'. If, in the case of grand projects, parts of it are subcontracted, the parlance is 'study for the designing' or 'research driven design'. This quarter of the program focuses on 'research driven design' on the scale of the district, while the real effects of the implemented ring road are still unclear, but the context for the design is known and it deals with different stages during the process.

The third quarter (Q3) of the Master program existed of a Research & Design Studio that was focused on the 'Spatial Strategies for the Global Metropolis'. The location for this project was the area of the island of IJsselmonde, which is dealing with regional and metropolitan planning and design, referring to the transformation of the Randstad and its influence on the surrounding areas, like IJsselmonde.

The role of research in this quarter can be described as 'Study by design', using the classification of types by De Jong and Van der Voordt (2002).

'Characteristic for this type of study is generating knowledge and understanding by studying the effects of actively and systematically varying of both design solutions and their context'.

In this quarter of the Master program the focus was laying on 'study by design' on the scale of the region, while using different literature and methodologies to generate knowledge of the area and the effects of regional plans in the different contexts and on different scales.

3 Tools and Methods

From the analysis of the role of research in the three quarters of the Master program of Urbanism at the TU Delft, the differentiation between the educational underpinning of each quarter is made clear. Related to the different roles of research in the quarters, a variety in tools and methods are addressed during each design project.

By looking back at the first quarter (Q1) of this program, it will be clear that it was in the beginning still more a way finding out what 'urbanism' was and how a masterplan could be made for a specific city. Because of the load of information during this first quarter and the differentiation between the students, considering their background of education, it was necessary to have a tool or method to communicate with each other and to get grip on the project.

For this reason it was very helpful that our teacher learned us a method to start organize our thoughts, by first making an agenda, resulting from our quick analysis of the city, to have a focus point for the next steps to come. So the questions were: What are the main issues in this city? Which statements can be made

about those issues? And which elements in the city represent good examples do deal with these issues?

To organize the results of the analysis into an agenda for the city, we made a mindmap of four main areas in the city in relation to their issues and a mindmap of three focus points in relation to the issues. This tool helped us to communicate inside the group and to lead us towards our three statements for the agenda.

From this first step, we went on to do comparative studies of other cities, while focussing on the statements of our agenda. For each statement we found a comparative city, which helped us to understand the issues better and lead us towards optional solutions, which would form our vision for the city.

This vision had to be captured in one image, so it could be communicated to others and really showing the different elements and effects all together. Because it was group work, it was difficult to make one image from our different comparative studies, that is why we first made a model and than transformed this into a 2D image.

From our vision we named our individual projects, and used the knowledge from the analysis and comparative study to design these interventions for the city. These interventions were again related to the three statements of our agenda and the total vision for the city. As the last step of this project, we combined the information of the vision and our interventions all together, to create the masterplan for the city. This plan was divided into a larger plan for the city district and the meeting point of our different intervention areas.

Because of the methods learned in the first quarter, the start-up in the second quarter (Q2) could be made more efficiently. By analysing the city of Nijmegen, focussing on the areas along the new planed ring road, the individual intervention areas could be chosen.
Different analysis methods were used to define the ring road and it surroundings, like the 3-steps analysis and the use of SWOT analysis. From here on the 'Where', 'Why', 'Aim' and 'Strategy' for the individual project were defined, combined with a diagram of issues for the specific area. This let in combination with the analysis of the area, to the vision for this individual project.

From this point a comparative study was made on station areas in the Netherlands, which would help to define the intervention area and the function for this area more clearly. The plans of the municipality were analysed as well, and critically changed, to let their plans for the ring road work throughout different scales, and not only on the regional scale. This let towards a concept for the intervention area and a design, which was connected to its surrounding areas.

After the design was made, a critical evaluation on the project had to be made, looking at the legal and economical feasibility. For this evaluation, the effects of the interventions were studied, the phasing of the project, the traffic noise, the daytime activity and the total costs and profits of the project. This helped to review the project and change the outcome due to the difference in for example costs and phasing.

The third quarter (Q3) was again more group work then individually, so the methods and tools to communicate within the group were more necessary. In this quarter the focus point was laying on the meaning of words we use to explain our plan or ideas towards someone else, by referring words and definitions to literature.

The relation between research and design has always been a point of discussion in our profession, because of the different worldviews and knowledge about Urbanism education. Why is it relevant to learn about methodology and research in the field of Urbanism?

Here we started with the concept of 'in-between areas' on the Island of IJsselmonde, and tried to make a main research question and sub questions to organize our thoughts. By looking for good definitions and literature, we could get grip on this idea of 'in-between'. By making a wordcloud about the 'in-between', the definitions of the urban area, the rural area and the in-between area could be determined.

After this determination of the definitions, the real 'in-between' area of IJsselmonde was set. Combined with the literature study, we searched for a comparative project, which could be transformed into the location, in relation to our concept. By transforming this comparative project into the location, new definitions had to be researched in relation to the giving situation.

From this literature study, comparative study and analysis of the area, the regional vision for the area had to become clear. Again this vision had to be captured into one image and that is why we first used a model to communicate our ideas in the group and from this transformed it into a 2D image.

From this regional vision, the intervention areas were defined, which would help us to explain our vision and show how this vision would work by doing an intervention on a smaller scale. In this stage of the project, the phasing of the vision and the interventions played an important role, while a vision can change over time, but the interventions should be concrete actions. For designing these interventions, reference projects were taking into account and more specific analysis of the areas were made.

Finally after the design of the interventions, they were referred again to the regional vision, to get a total view on this project for IJsselmonde and the relation of the individual interventions to the regional plan. Separately from these tools and methods to do research and design, we also spend a lot of time on presenting our work verbal and non verbally in an proper way, in relation to the meaning of words and drawings to explain our ideas.

4 Reflection

By reflecting on the three quarters of the Master program of Urbanism at the TU Delft, you can say that I learned a lot during this year about methodology and research in relation to design. Mainly in the first quarter and the last quarter I gath-

ered a lot of new information, how to deal with literature and comparative projects, how to create a vision and a masterplan. Especially in the first quarter, because my background of the Bachelor program was not enough to directly understand and getting grip on the project, the guidance of the teacher and his method, really helped me to move forwards.

Also in the last quarter, the special way of the teachers to guide us, did learn us more about how to translate our ideas into a design and communicate it towards others. Here it was less a design orientated guidance than in the two quarters before, and therefore it was sometimes difficult to see the next step. But it gave us in the end more notion of our own skills and helped us to make our own decision, instead of choosing the one of our teacher.

In the second quarter, the guidance was more orientated towards design and also this helped me to develop, but less in relation to research. In this quarter I learned about strategy and aim, but the lessons about those 'themes' were sometimes a bit vague. The organisation of the whole quarter made the connection between the theory and practice disordered, which made the design relating to research more difficult.

The good aspects of all those quarters together is the way I learned to see the relevance of research, like making an analysis or a comparative study and use models to communicate towards others. Not just making them to have them, but really using the outcomes to move forwards in the design process.

Comparing the quarters to the information given in the text 'Eight Criteria' (Biggs and Buchler, 2008) about the 'Situated position' and the 'Isolationist position', you can say that the first and the last quarter had more of a Situated position, then the second quarter. This is because of the fact that they were more related to research and literature, which gave them similar conditions. Also the methods learned in these quarters were not specific for our profession, but could also be translated into other research fields. When you look at the methods in the second quarter, like defining the aim and strategy and the evaluation on the project, you can also see the relation with other fields, but it was mainly focused on design. The question now is : Is this a general learning process for each student participating in these quarters of the Master program, or is it a very specific outcome?

I think it really is not a general learning process, first of all because of the differentiation in backgrounds of education and secondly the influence of the knowledge the teachers transfer to the students. It really depends on the teachers, which kind of knowledge a student receives and which kind of guidance he or she has. Also the relation between the theory and the practice depends on the overlap of lectures and design lessons and the central role of the teachers in this process.

5 Conclusions

Looking back at the three quarters of the Master program of Urbanism, we have come again to the question : What is the role and importance of research in Urbanism education? Why do research in Urbanism?
As explained in the paragraphs mentioned above, the knowledge you gather during the quarters, is not one-to-one connected to the educational program. The influence of the teachers on this education must not be underestimated.
So first the question is maybe not the 'role of research' but more the role of methodology in Urbanism education.

Because the influence of teachers defines a lot of the knowledge you gain, a general guidance is needed to create equal education for each student. Here methodology comes to mind. It is the basis for equal values and methods, that the students can learn in this Master program. From this basis on methodology, the influence of the teacher can again give own value, which can provide a good mix between theory and practice.

Here the role of research comes forward. While this also helps the educational program to have general values, and makes it possible to communicate and link the Urbanism education to other professions.

Here the role of research comes forward, while this also helps the educational program to have general values, and makes it possible to communicate and link the Urbanism education to other professions. On the other hand, it helps the students to get grip on the projects and the design process and let them see the relevance in the academic field. By learning about research in relation to design, our profession gets more a Situated position in relation to other (academic) fields.

6 Recommendations

As said before, the Urbanism education is closely related to the knowledge of the teachers and their influence. For me the combination of teachers I had in the three quarters, really helped me to move forward and develop myself towards the graduation year.
For other students, this may not be the case.

That is why the methodology course is important, to really give some equal value of knowledge to de students, as a basis to develop yourself in the design process.

But now the course is mostly integrated in the last quarter (except for two lectures in Q1), which sometimes limits the information in the first and second quarter. So why not spread the information of the methodology course more in the first and last quarter? In that case the questions about methodology, which I still had in the second quarter, will not be answered with a personal interpretation of the design teachers. By spreading the information, the students will receive earlier a general knowledge of methodology and research in Urbanism education.

References

JONG, T.M.D. & VOORDT, D.J.M.V.D. 2002. Ways to study and research : urban, architectural and technical design Delft, Delft University Press.

BIGGS, M. BUCHERLER, D. 2008. Eight criteria for practice-based research in the creative and cultural industries IN : Art, Design & Communication in Higher Education, Intellect Ltd.

The Different Roles of Research in Europe and China

Brief comparison between European and Chinese urbanism

Yu Ye
(China)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2011

Abstract – This paper analyses the differences in crucial aspects of European and Chinese context to ask the question: why research plays an important role in European urbanism while it is not so crucial in Chinese urbanism. Through comparing economic, social, philosophic backgrounds and the identity of urbanism between European and Chinese context, we can find that urbanism is a reflection of its complex backgrounds. Those basic differences cause the different role of research between two contexts. The conclusion is, although there are plenty of differences between European and Chinese urbanism, Chinese urbanists will follow their European peers' footprints to attach importance to research with the progress in China.

Key words – research and practice; Europe in contrast with China; the role of research

1 Introduction

It is a common phenomenon that both academics and practitioners in the Netherlands acknowledge that research plays an important role in the nature of urbanism. Research is the first move and basement for the whole planning and design process. They must build up their own assignments. In fact, a large part of the activity of urban designer and planner is related to the definition of the problem to be tackled by a design or a strategy,[1][0]which is completely different with my didactic and practical experiences in China.

Most Chinese higher-education institutions confirm that urbanism is a practical-oriented discipline. Therefore, research is placed in a marginal position in their education system. The didactic fundament of urbanism is architecture and design skills. (Fig.1). Expectations from academics concerning education in urbanism are mainly linked to practical professional skills. For Chinese practitioners, the situation is even worse. Research is only a trick picture in their understanding. They prefer to determine the result of research first and based on the result to search for suitable facts and then create their fake research process. Why the emphasis is only put on design practice in Chinese universities and research is insignificant for Chinese urbanists? Why it is so different? Why European urbanists are more successful in providing its inhabitants with great urban environment? Of course, historical development and first-mover advantage are huge.

Nevertheless, I also believe:" What is rational is actual and what is actual is rational- Hegel." As we all know, urbanism as a discipline has strong regional characteristics and it is a reflection of deep-seated economic, social, philosophy background. Therefore, a research about the difference between European and Chinese urbanism can help us to understand the nature of it, while pointing out the future trend of urbanism.

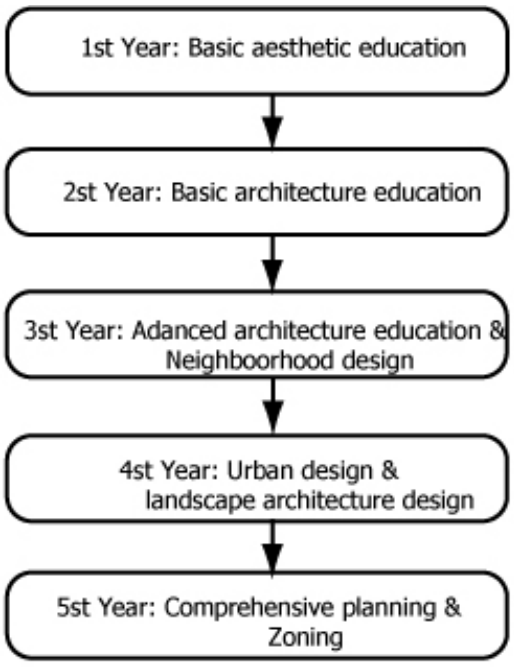


Figure1 *Overview HUST Urbanism Program, from 2009 HUST*

2.1 How to define research in urbanism?

Research - the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions. [2][0] If we narrow it down to the research in urbanism, we will find that there is more than one research paradigm in urbanism. E.g. spatial planning and urban design have different research paradigms. However, a common basement still can be identified in those different areas - through plenty of tools to diagnose the target city or urban areas, to definite the problem to be tackled by a design or a strategy. Urbanists need to seek to understand what the problem is. It is research in urbanism.

2.2 A brief review about the different starting points of modern urbanism between Europe and China?

Most European cities made a great leap forward in the background of industrial revolution. In the meanwhile, urban problems and related social issues in big industrial cities attracted a lot of attention. The first signs of this new response to the ugliness of the industrial city come in the form of several late 19th century plans for new "ideal" cities laid out in an entirely different pattern. And modern urbanism was created to tackle those problems.

So far, so much has been written about Ebenezer Howard (1850-1928) and his garden city concept that always been seen as the beginning of modern urbanism. Howard read widely and thought deeply about social issues, and out of this concern came his book in 1898 titled To-Morrow: A Peaceful Path to Real Reform. [3][0] it is clear that the starting point of modern urbanism is more focused on social aspects. Urbanism as an important part of public affairs, plays different roles in the process of social change. And European urbanism also transformed by social development.

While Chinese modern urbanism is inherited from form USSR in 1950s, which is one part of the planned economy system. Most Chinese cities made their first comprehensive planning follow USSR experts' guild and the first generation of Chinese urbanists are graduated from Russian colleges. Therefore, there is a soviet brand on Chinese urbanism. The main aim of urbanism in China is to control and govern the development of cities. Chinese bureaucrats were learning from their Soviet peers who only pay attention to productivity rather than people's life. Thus, in China, governance is the main subject of urbanism, which only needs to follow the guild from politicians. Research is not a necessary part in this traditional context.

2.3 What is the difference of backgrounds between Europe and China?

First of all, Europe and China have totally different economic backgrounds in the past 40 years. Europe is undergoing a shift from old Fordist mode of production toward the diversification of consumer markets in 1970s, accompanied by the aging process and slowing growth economy. While China is accepting numerous industrial transfer from western countries and begin an unprecedented industrialization and

urbanization. Chinese private developers and government officers become excited or even crazy because of the consequent economic booming from 1978-2010. The different economical backgrounds will lead to quite different requirements for urbanists in two contexts.

Then, there is also a big contrast between European and Chinese social background. A constitution imbued with Hellenism, from Ancient Greece, Ancient Rome, to Europe and the whole West. [4] Thucydides said: We use democracy to describe our political system simply because we are in the habit of referring to majority." Liberalism's first victory was gotten in Europe in the potential influence of Hellenism. From Declaration of the Rights of Man and of the Citizen, 1789 to the end of Cold War in 1991, universal suffrage was spread and a real civil society was mature in Europe. In the meanwhile, an equal discussion platform was created among government, the public and developers. Everyone can have their own voices. Therefore, varied stakeholders involved in the planning and design process demands a serious attitude. That is one of the reasons why research becomes more important with the development of democracy.

In fact, a large part of the activity of urban designer and planner is related to the definition of the problem to be tackled by a design or a strategy, which is completely different with my didactic and practical experiences in China.

What's more, urbanism practice, to many effects, is a highly subjective activity. It is validation is built upon public's appreciation, rather than truly objective in European context. [5] The role of urbanism is to explain and expose the reasoning and value judgements, rather than mystifying the process. Therefore, a logical discourse based on real research can explain the design process clearly to design peers and the public. In European context, urbanism research is a great help to let people accept the decisions.

During 1950s-1970s, China is a typical communist country. An authoritative government controls every aspect, from politics to economy, in this country. After the reformation in 1978, Chinese threw old soviet economy policy away and turned to the free market policy. (Fig.2) But any attempt on political reformation was nipped by conservative bureaucrats. Contemporary Chinese government is a combination of capitalism and autocracy. It is one of the most commercial governments on the earth, which also has the highest implementation capable in the meanwhile. Obviously, voices of the common people hardly produce any result. The mayors can do anything they want, i.e. forced leasing and driving residents out. Because they do not care the response of local inhabitants, they are only responsible for the higher leaders. In this context, Chinese urbanists are drawing tools and only when the research result is satisfactory for mayors, planning can be implemented. When urban planning only service for officers, a real research will be stupid.

Figure2 Public opinion on capitalism, from the Economist Online, http://www.economist.com/blogs/dailychart/2011/04/public_opinion_capitalism

However, compared with the old communist government from 1949-1978, I must point out that Chinese government is transforming to a more humanness authority. Old soviet worldview was given up and the mainstream viewpoints in China are drawing close to the western. In this background, Chinese urbanists find the importance of social issues. Even so, the tradition is very hard to be changed. Control still is the main aim of urbanism according to new Urban and Rural Planning Law of the People's Republic of China, 2008. How to make a suitable planning through research did not draw much attention for Chinese urbanism practitioners.

Last but not least, the difference in philosophy also should be mentioned. The foundation of European culture was laid by the Greeks, regenerated by the Renaissance, and modernized in the Age of Enlightenment. In this long historical process, rationality and positivism become the catalyst for progress of civilization, and finally become a marked feature of European philosophy.

The belief of positivism asks European urbanists to understand the city based on sense, experience and positive verification, while rationality let planners and designers to consider things more deliberately and logically. Those philosophic believes provide possibility and necessity for research in urbanism. By contrast, the mainstream of ancient Chinese philosophy is metaphysics, which is created by Lao-Tzu and Chuang-Tzu. Chinese people prefer to study the ultimate and fundamental reality rather than logical thinking. The other part of Chinese philosophy, represented by Confucius, which stresses the consensus of opinions, encourages coordination and obedience.

Although considerable part of those ancient Chinese philosophies were disappeared with the globalizing of European philosophy and culture. Until now, Confucianism and Taoism still have an important effect on many aspects of Chinese daily life. In this kind of cultural context, debating is blamable, questioning is unsuitable. Therefore, urban planners and designers prefer to follow politicians' ideas rather than giv-

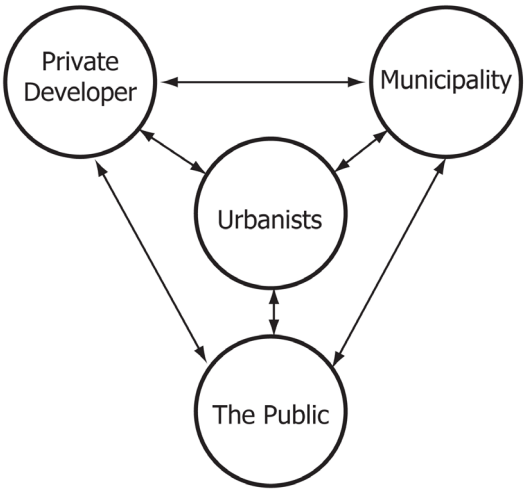


*Figure **3** Identity and role of European urbanists, as understood by the author*

ing their own research results. Inhabitants prefer to accept the plan rather than asking for why. So research by design does not widely accept by both academics and practitioners.

2.4 Different identity and role of urbanism in European and Chinese societies?

The identity and role of European urbanism have made two transformations in its post-war development. One the one hand, urban ism changed from design on built environment to systematic analysis and rational process of decision-making. Physical determinism was the mainstream viewpoint of urbanism in Europe until 1960s. Aesthetics was the key issue of urbanism and urbanism could be seen as a kind of art as well as architecture. In the 1960s, systematic analysis and rational process of decision-making were introduced into urbanism and Urban and regional planning: A systematical approach, Brain Mcloughin is the milestone of this transformation. Obviously, research process has a high effect to urbanism in this background.

On the other, urbanists are no loner been seen as neutral professionals who make the planning and design based on knowledge (Fig.3). They assert that planning seeks to influence not control. More and more academics assert that no one is living in the vacuum. Most research in urbanism is biased in one way or another. We all speak from our social and perspectives. The role of planning is try to shape new attention, to alternative ways of understanding, to shift the differences and build new coalitions. Communicative planning and advocacy planning are the new directions of urbanism from 1970s. Varied boards and discussions play more important role in planning process. European urbanists were asked to change from the professionals into the role of communicators and organizers. Through research and discussion among different stakeholders, urbanists can make the implement the planning and design more correctly. Thus, research becomes an indispensable part of urbanism.

Contemporary Chinese urbanists have understood the crucial of those two transformations in Europe but the actual identity and role of urbanism in China are hard to be changed. Current China is a monster controlling by the mixture of capitalism and power. Urbanists cannot find the third road in it and the public always be ignored (Fig.4). In this context, urbanism is a technical tool to help developers or officers. When urban planning only service for officers and developers, a real research will be a stupid movement. Most urbanists are only dealing with planning and design for the sale of profit only.3

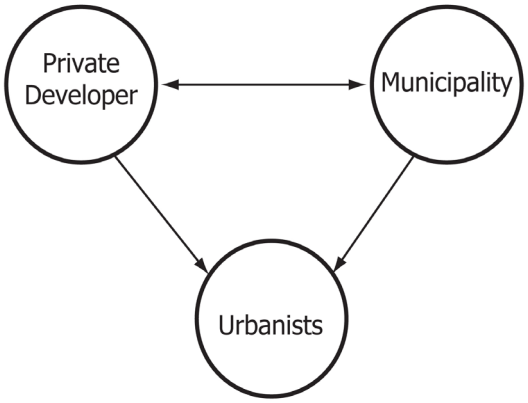


*Figure **4** Identity and role of Chinese urbanists, as understood by the author*

Conclusion

Based on the analysis above, we can find that the different roles of research between European and Chinese urbanism have deeper reasons connecting to economic, social, philosophic and other fundaments. Urbanism is a reflection of the complicated system. It is impossible and unnecessary for us, urbanists, to try to change this complex system. In fact, if we make a comparison between current Chinese urbanism and European urbanism 1950s-1960s, plenty of similar elements can be found, i.e. the blueprint design pattern, top-down development model and un-mature civil society. Thus, in the not too distant future, with the democratization of politics in China and further economic development, Chinese urbanists will follow the footprints of their European peers.

A redefinition in the role of urbanism will happen in China. But now, as a realist, we should see the light in dawn and give Chinese urbanism more guide to promote it develop in the right way.

References

CANFORA, L. 2008, Democracy in Europe: a history of an ideology, London: Blackwell.

HOWARD, E. 1946, Garden Cities of To-Morrow London: Faber and Faber: 50-57, 138- 147.

ROCCO, R. & ROOIJ, R. 2010. Educating the Critical Urban Planner and Designer: A didactical experience in an area of practice. INTED, 2010 Valencia. IATED.

Being a Critical Thinker

Critical Thinking Skills and Practice in Urbanism

Aleksandrs Feltins
(Latvia)

Xiaochen Che
(China)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2012

Abstract –This essay mainly focuses on the definition of critical thinking and its necessity in the professional field of urbanism. We did research on the origins of critical thinking and give our own understanding of it. Then we describe it further in terms of its role in urbanism, using practical examples to illustrate its relevance of critical thinking to urbanism. In the end, our own academic practice of regional planning of Haarlemmermeer as an Aerotropolis and strategic urban design in Yongsan, Seoul during Quarter 3 are going to be depicted with the process of how we built our argumentation during the whole research and design process. As a conclusion, critical thinking is crucial in urban planning and designing, also the necessary skill for an urbanist. Because it is required during the whole plan and design process in every urbanism project.

Keywords – critical thinking; urbanism; Socratic method; Buddhism; Confucianism; criteria; academic; creativity; regional plan; urban design; practical science

I. Introduction

Is society asking for critical thinking? It is a vital necessity for the citizens of the 21st century, because the world is becoming increasingly complex and technical. The need for a worker in nearly every field, who is capable to carry out multistep operations, manipulate and abstract and complex symbols and ideas, acquire new information efficiently, and remain flexible enough to recognize the need for continuing change and for new paradigms of lifelong learning. Information explosion, which is only taking pace, makes it difficult to make choices of relevant, credible information and to interpret and evaluate it.

Diane F. Halpern stresses the critical necessity of the ability of life-long learning. She points out, that we are currently reaching life expectancy of 80 or even 90 years. It means, that current young generation will be perpetually changing their profession, some of them currently do not exist and some will face profound transformation. (Halpern, 2003) The twin abilities of knowing how to learn and knowing how to be clearly about the rapid proliferating information that we must select from are the most important intellectual skills for the 21st century.

II. Critical thinking

1. Definition

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (National Center for Excellence in Critical Thinking Instruction, 1991)

We tried to find origins of critical thinking in our own cultures. And since we are of quite different origins, our inquiry went back to the Socratic method and to Buddhism and Confucianism. This historical excursion gave some insights in common features and differences of understanding of critical thinking in different cultures.

2. West origin - Socratic method

The Socratic method can be regarded as the origins of Critical Thinking in Western world. Testing of hypotheses, procedure of constant questioning of the object, importance of knowledge acquired from research ("true justified belief") all could be found in Socratic dialogues, recorded by Plato during Classical period in Ancient Greece. As the main objects of the dialogues served fundamental concepts, such as virtue (Meno), justice (Crito), piety (Euthyphro), beauty (Hippias Major) and others. Dialogues always begun with the statement brought into the conversation by the other person.

Thus in Meno, the notion of virtue is being addressed. Meno asks Socrates how virtue is obtained, by teaching, practice or is given by nature. Socrates explains, that in order to answer this question, virtue itself should be defined. He receives answer from Meno that there are virtues of men and women, that of slave or elderly, in other words, plenty of virtues. The answer did not satisfied Socrates, he claims for singular, unbroken notion of virtue. He recalls health and wisdom, which is inherent to everyone. In order to get closer to single, unbroken notion of the virtue, Socrates asks associated question: what is colour? Can we talk about this concept in general, without explaining it using its parts? His answer gives hint for further investigation: "colour is an effluence of form, commensurate with sight, and palpable to sense". In this fashion, Socrates asks Meno to tell single notion of what virtue is. Meno, again, is unable to avoid breaking down the virtue, stating that "that virtue is the power of attaining good justly, or with justice; and justice you acknowledge to be a part of virtue". This is done by leading the conversation again from particular notions of virtue, until one curious episode occurs: Meno compares Socrates with shock-fish, which like magician, can paralyse those who get into the contact. Meno cannot continue conversation, because Socrates, like magician, freezes Meno in contradiction, that if one does not know what the object of inquiry is, then it is impossible to look for. Then, Socrates in the same playful fashion, answers, that he cannot be a shock-fish, because he also does not know, what the virtue is, leads conversation further.

After Meno arrives at the notion that those who are virtuous should be aware of what evil is, Socrates emphasizes, that in order to find out, one should always recall, what is good trying to "remember" what is embedded in soul. He proves with geometry exercise done together with Meno's slave, that recollection is the only way to discover truth. And finally, since the knowledge (about virtue) cannot be thought, it should be recollected, acquired from the soul: "virtue comes to the virtuous by the gift of God. But we shall never know the certain truth until, before asking how virtue is given, we enquire into the actual nature of virtue."

In other words, Socrates claims, that knowledge cannot be handed over, like for example telling what is the capital of Greece or how many meters is one kilometre – it is rather 'assisted recollection'. What he does is test of own and other person's beliefs, and this test is performed in dialectical order: definitions or accounts of different matters to be questioned and therefore clarified. Such queries lead to a sort of knowledge. Socrates constantly claims his ignorance, which is expressed in negative attitude towards beliefs, which had not been questioned.

Socratic method is early example of scientific research, when hypotheses are being tested, research is done in order to eliminate fallacies, contradictions and delusions. Nowadays, critical thinking is contextualized in different disciplines, some of which goes beyond purely academic fields into practical and creative fields. However Socratic method may be a good start to a critical investigation.

3. Eastern origin – Buddhism and Confucianism

"Do not believe in anything simply because you have heard it. Do not believe in anything simply because it is spoken and rumored by many. Do not believe in anything simply because it is found written in your religious books. Do not believe in anything merely on the authority of your teachers and elders. Do not believe in traditions because they have been handed down for many generations. But after observation and analysis, when you find that anything agrees with reason and is conducive to the good and benefit of one and all, then accept it and live up to it."

"Believe nothing, no matter where you read it or who has said it, not even if I have said it, unless it agrees with your own reason and your own common sense."

Buddhism claims to be logical and quite relevant to rational thinking. Buddhist views on education are very similar to the constructivist theory of learning.

The sentences quoted from a religious book demonstrate the teaching about critical thinking in Buddhism. And Buddha was believed as one of the earliest practitioners of critical thinking skill. He used critical thinking not only to achieve his own enlightenment, but also teach his followers to understand, experience and practice critical thinking in their own spiritual journey, also as a means for solving the daily problems.

Buddhism claims to be logical and quite relevant to rational thinking. Buddhist views on education are very similar to the constructivist theory of learning.

For example, a general Buddhist philosophy is that there is no teaching – it is the student's mind, which is important. Essentially, Buddhism uses a student-centered learning approach when it comes to learning.

Another important eastern origin of critical thinking is Confucianism which is Chinese ethical and philosophical system that developed from the teachings of the Chinese philosopher Confucius. In practice, the primary foundation and function of Confucianism is as an ethical philosophy to be practiced by the members of a society. Its ethics is characterized by the promotion of virtues, encompassed by the five virtues that are Humaneness, Justice, Propriety, Knowledge and Integrity. There are still many other elements in Confucianism, such as honesty, kindness, shame, judge and sense of right and wrong, bravery, gentle.

Confucius used to talk a lot about the Government: He believed the art of government was a skill of correcting people. Therefore, Confucianism became a powerful tool to governance a large state in terms of people thought. In old Chinese Confucianism, authorities were educated to feel a sense of responsibility to the society and were counselled by a sophisticated bureaucracy in the art of good statecraft. It quite well worked and still work today in China. Real democracy does not exist in China since government almost has the power to control everything. Given correct and ideal guidelines and rules that are benefit to strengthening the governance of Bureaucratic class, people usually do not have the right and chance to voice their real needs. Therefore, Confucianism seems not relevant to critical thinking in terms of democratic governance.

As for learning process, different from Buddhism, Confucianism values a defined way of thinking and learning. A fixed and correct direction is provided for learners, and there is not much free space for open-minded thinking. Moreover, there is no discussion of rational demonstration or logical reasoning in Confucius' Analects. But this does not mean that Confucius was not concerned with correct reasoning or critical thinking. As A. C. Graham, a noted commentator, has pointed out, recent studies of Chinese philosophy, including Confucius' thought, 'reveal that most of the ancient Chinese thinkers are very much more rational' than earlier commentators have believed (Graham, 1989, p. 7). For Confucius, learning cannot be separated from thinking. Although he neither specifies the logical rules of good reasoning nor theorizes about the structure of argument, Confucius advocates and emphasizes the importance of critical thinking. Also, Confucius notes that ancient wisdom is based on reason, which is not a collection of customs and rules, but is itself founded on rationality. Therefore, critical thinking skill is also encompassed within the spirit of Confucianism.

Both origins associate critical thinking with rationality. Critical thinking in both instances is a way of learning and guiding action. In next section, characteristics of critical thinker are summarized and his qualities outlined.

4. Characteristics

Wade (1995) identifies 8 characteristics of critical thinking. Critical thinking involves asking questions, defining a problem, examining evidence, analyzing assumptions and biases, avoiding emotional reasoning, avoiding oversimplification, considering other interpretations, and tolerating ambiguity. Dealing with ambiguity is also seen by Strohm & Baukus (1995) as an essential part of critical thinking, "Ambiguity and doubt serve a critical-thinking function and are a necessary and even a productive part of the process".

Critical thinking includes a complex combination of skills. Among the main characteristics are the following: rationality, self-awareness, honesty, open-mindedness, discipline and judgement.

Rationality implies: rely on reason rather than emotion, require evidence, ignore no known evidence, and follow evidence where it leads, and are concerned more with finding the best explanation than being right analysing apparent confusion and asking questions.

Self-awareness implies: weigh the influences of motives and bias, and recognize our own assumptions, prejudices, biases, or point of view.

Honesty implies: recognize emotional impulses, selfish motives, nefarious purposes, or other modes of self-deception.

Open-mindedness implies: evaluate all reasonable inferences, consider a variety of possible viewpoints or perspectives, remain open to alternative interpretations, accept a new explanation, model, or paradigm because it explains the evidence better, is simpler, or has fewer inconsistencies or covers more data, accept new priorities in response to a re-evaluation of the evidence or reassessment of our real interests, and do not reject unpopular views out of hand.

Discipline implies: be precise, meticulous, comprehensive, and exhaustive, resist manipulation and irrational appeals, and avoid snap judgments.

Judgment implies: recognize the relevance and/or merit of alternative assumptions and perspectives, and recognize the extent and weight of evidence.

To be a critical thinker, the ability to think clearly and rationally is necessary. It also includes the ability to engage in reflective and independent thinking. But there are more abilities that a critical thinker should have. Therefore, the following criteria are needed to judge a critical thinker.

5. Criteria for critical thinker

To be a critical thinker, the ability to think clearly and rationally is necessary. It also includes the ability to engage in reflective and independent thinking. But there are more abilities that a critical thinker should have. Therefore, the following criteria are needed to judge a critical thinker.

At the first place, critical thinkers are flexible. This means that they can tolerate ambiguity and uncertainty with an open mind. As Cottrell described in his book, dealing with ambiguity and doubt is the core part of critical thinking. With the development of high-tech, we can easily obtain answers within minutes on the Internet, there are lots of possibilities and alternatives, but we need to identify which is rational and useful among those ready answers. Then critical thinking becomes a tool to filter. Moreover, the black-and-white analysis should be avoided in terms of tolerance of ambiguity. Critical thinkers often enjoy themselves in mysteries and complexities rather than a unique and correct answer, and be willing to test their ideas and assumptions by themselves in stead of finding an answer in a book or somewhere else.

Critical thinkers have the ability to identify inherent biases and assumptions. On one hand, to identify the biases and assumptions of others is quite a critical process. On the other hand, critical thinkers also can confront their own biases and predispositions, then deal with problems in a rational way. They detect inconsistencies and common mistakes in reasoning.

With willingness to self-correct, critical thinkers maintain an air of the skepticism, especially about the ideas that the majority people may agree on. They are often active and raise questions when judge other's argument. They should not be confused with being argumentative or being critical of other people.

In addition, critical thinkers can separate fact from opinion. They put much emphasis on evidence and remain emotionally detached, and come to conclusions based on facts from variety of settings and individuals. A person with a good memory and who knows a lot of facts is not necessarily good at critical thinking. A critical thinker is able to deduce consequences from what he knows, and he knows how to make use of information to solve problems, and to seek relevant sources of information to inform himself.

Moreover, critical thinkers do not oversimplify a problem. During the research process, they try to think divergently and take different alternatives into account. In the end, they solve problems in a systematical way.

At last, Critical thinkers use logical inference processes. Everyone makes inferences based upon the limited information since total omniscience is impossible, then the logic of those inference appear very important and must be well thought out.

III. Critical thinking in Urbanism

1. Correlation with Urbansim

We understand urbanism as a practice of urban and regional design, and the importance of critical thinking is elaborated for this type of professional practice. As stated above, we will experience profound change in the orientation of the disciplines and should be able to accustom to perpetually changing world. Urbanism emerged from various disciplines. Thus, the Dutch tradition of urbanism is grounded in architecture, civil engineering and landscape architecture. (Palmboom). During the short period of its existence, urbanism has changed numerous times. Recently, there is a tendency to stress the need for new critical practice of urbanism, which would be able to anticipate conditions of global economy and its spatial consequences. (Soja et al.) Can we regard critical thinking as the fundamental skill to sustain our profession and accustom ourselves to the new conditions? In following paragraphs we looked at our own designs in terms of coherence of argumentation and logic of reasoning. We tried to evaluate their rationality and the propriety of argumentation.

2. Haarlemmermeer as the Aerotropolis (Xiaochen Che)

In Quarter 3, I joined the studio of regional planning for Haarlemmermeer, which aimed at working out with a strat-

egy for a sub-region of the Randstad Holland, concerning both the regional and local impact in terms of economic and environmental issues.

I worked with other 5 students on the economy of Haarlemmermeer. Obviously, economy is a difficult theme to work on since it is so broad and almost related to everything about this region, including both physical and social aspects. In order to gather more information about this metropolitan region, we started with the research on 7 main economic clusters in Amsterdam Metropolitan Area (figure 1). Then we found that almost all the economic clusters are related to the Schiphol Airport, which is functioning as the main economic engine of the Netherlands (figure 2). Therefore, the theory of Aerotropolis was used as our theoretical approach, which implies to an urban form whose layout, infrastructure, and economy is centered on an airport, offering its businesses speedy connectivity to suppliers, customers, and enterprise partners worldwide. (figure 3).

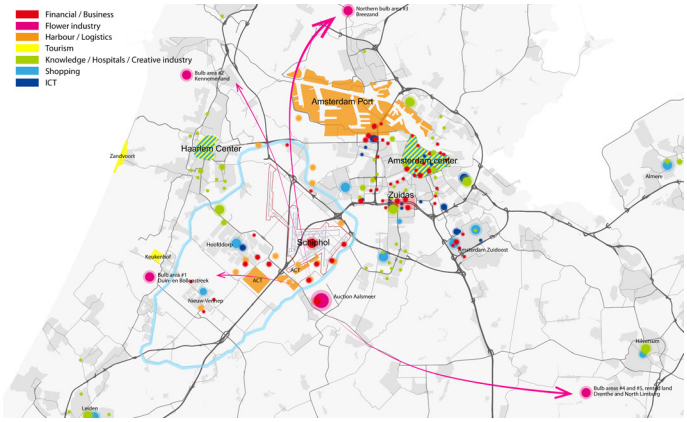


Fig 1: economic clusters in Amsterdam metropolitan area (by Xiaochen Che)

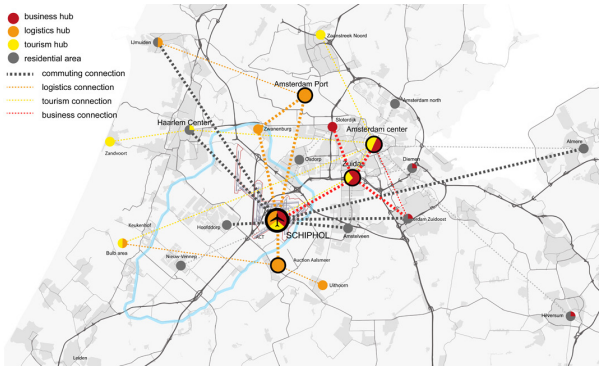


Fig 2: relations between clusters (by Xiaochen Che)

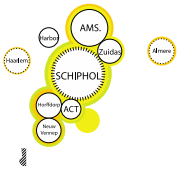


Fig 3: theoretical approach- 'Aerotropolis' (by Xiaochen Che)

After comparison with airports of Paris, Hong Kong and Frankfurt, which are airport cities with multi-functions, we developed a strategic plan(figure 6) with two different structures combined together to develop Haarlemmermeer's economy as an Aerotropolis (figure 4 and figure5). One structure is nucleus system in the south, which is consists of a series of small towns that are separated from each other in order to maintain the rural landscape. The other structure is a network with three corridors that have different functions- residential, logistics, and financial. These corridors all come from the Schiphol Airport, which is becoming the new economic centre of Amsterdam Metropolitan Area, even surpass Amsterdam centre.

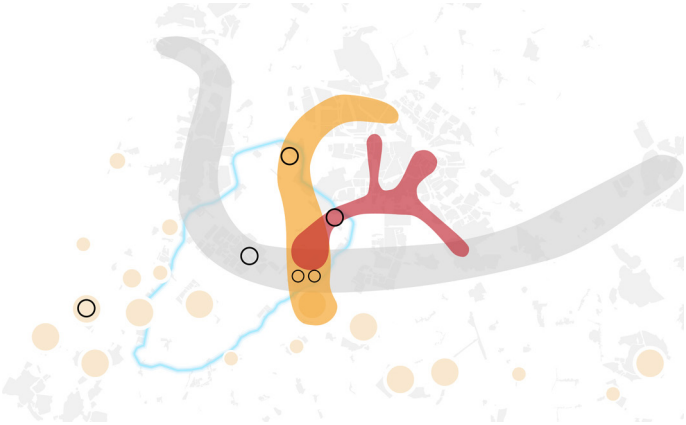


Fig 4: concept for regional planning (by Xiaochen Che)

Fig 5: illustration of new network(by Xiaochen Che)

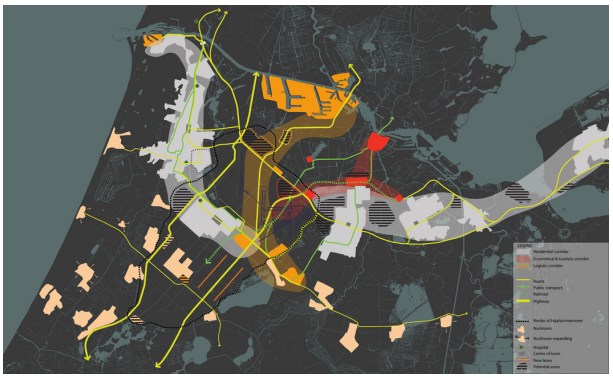


Fig 6: regional plan for Amsterdam Metropolitan area (by Xiaochen Che)

In the end, we zoomed out to the Randstad scale. Our proposal for Haarlemmermeer as an Aerotropolis will change the centrality of Randstad North Wing and bring about enormous impact on the economy of this metropolitan region. (figure 7)

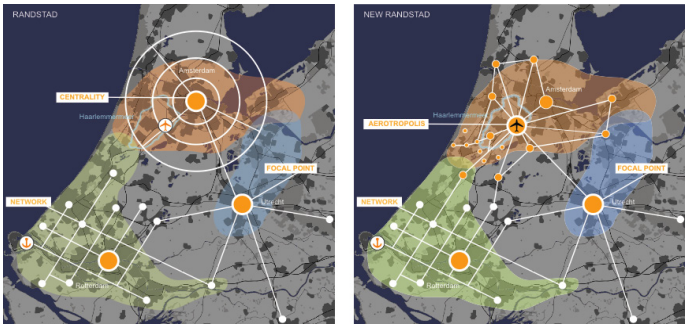


Fig 7: effects in Randstad structure (by Xiaochen Che)

Normally, designing is a quite subjective process since the results are dynamic and flexible, and different individual has his own perception to a design work. However, the objective of urbanism is not an art work but a series of spatial consequences that are supposed to meet practical needs of users. Therefore, as urbanists, we should be critical and objective during research and design process, and take the possible effects of the design into account. That is to say, we can not only focus on expressing our innovative ideas like an artist, in stead, we should collect all the voices of users and try to balance and integrate them into a feasible design. In this case, the skill of critical thinking is quite important. During quarter 3, we tried to create a logical storyline while organize the planning and design process, being critical when define the problems and solutions. In the end, I think we made the proposal quite rational and feasible. However, it was a shame that we could not present it well in the final presentation because of bad time management, since we were such a large group and everyone spoke a lot about individual projects. As a result, we were commented by our tutor 'the best group but weakest presentation'. This was also an important lesson for me in quarter 3, since presentation to audience is like selling a product, we should have picked some strong 'punch lines' and visualize the final design instead of explained all the design process and bored the audience.

3. Vertical Asian Cities - Yongsan in Seoul (Aleksandrs Feltins)

In urbanism, and in urban design in particular, coherent argument based on knowledge is crucial. Critical thinking was inherent part of project work during Q3: since the context was foreign, the knowledge base and evidence should have been built and approved by reasoning. The brief of »Vertical Cities Asia« competition served as an assignment for the studio. It was based on two main points. First, 100.000 people to be housed on one square kilometre. Second, the thematic of this year assignment was "Everyone Ages": "Population aging is unique in Asia given the speed at which it is occurring and the immense social and economic changes that the region is experiencing at the same time" (VCA 2012).

Final storyline which evolves from the brief towards strategy is seemingly linear: problem statement-research-analysis-solution. But in fact the process followed spiral pattern, where initial statements of the competition brief were elaborated and eventually developed to design strategies. The three main 'milestones' of project argumentation, namely Brief, Conditions, and Strategy, helped to communicate idea in legible and cohesive way, keeping story both clear and specific.

First part, Brief, defines thematic and spatial context of the project. The given site is defined as: "Once peripheral, now in the middle of the city. Site is dominated by infrastructure. Insular characteristic of neighbourhoods with large void of former rail-yard." (figure 8) Site itself is hierarchically related to the Hangang river, tied to metropolitan region by urban rail, bordered with main traffic thoroughfare, and is a part of polycentric city." (figure 9). Issue of ageing population in Asia is appropriated as a trend, which would change the society and calls for structural transformation of spatial reality of Seoul. The assignment to house 100'000 people on 1 square kilometre was paraphrased as a requirement for specific density of urban form.

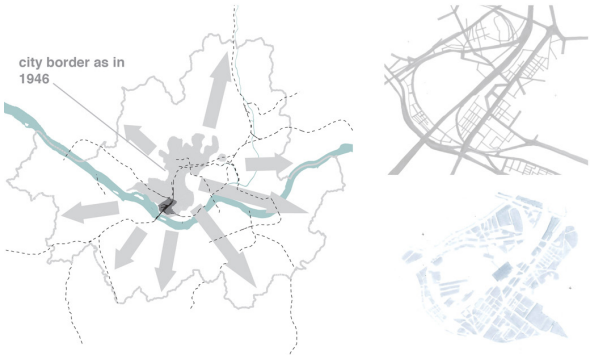


Fig 8: Characteristics of the site (made by Aleksandrs Feltins)

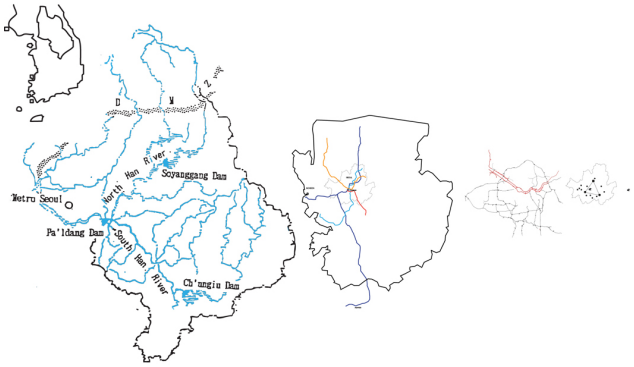


Fig 9: Relation of the site to the larger scale (made by Aleksandrs Feltins)

Second part summarizes research and analysis, guided by three directions formulated in the Brief. Term »condition« was used as a objective of this research and analysis. Condition, in this context, means state, shape, status, which describes the performance of the site, its actual shape, on-going process and possible future. To understand the relation of the site to the larger whole, concept of landscape in Korean cultural context

was used. Conditions of transformation and use of the site comprehended in relation to the general trends of urbanization during last decade. Density, as a specific requirement of competition brief, elaborated as a quality and condition of urban fabric. Empirical study on current densities in Yongsan had been done, and in order to understand the implications and potentials of different densities, »space matrix« tool had been used.

Third part, Strategy, represents a set of attitudes to guide the design. Design is an agency of the strategy and a tool to test it, to prove it is feasible. To communicate strategy and design, tools such as zoning plan, land-use transformation plan and strategic urban project were used. Strategy addresses main issue formulated in analysis step: "To achieve more resilient urbanization, with respect to culture, society and existing conditions of the site and Seoul."

Landscape approach was crucial to formulate this statement: it is a culturally specific representation of the man-nature relationship, expressed in traditional Korean landscape painting, sansu-hwa. It means the unity of the mountains and rivers, two characteristic elements of Korean nature. According to Daoist world-view, "man should not intrude upon the magnificence of the landscape, but should be quietly part of its complete whole" (Song-mi, 2006).

However, this led to the critical examination of on-going urbanization in Seoul. Studies of terrain, climate and natural disaster showed that this harmony had been lost due to the fast urbanization, which took place last three decades. Striking evidence is the results of annual flesh-floods, which cause inundation of large urban areas and landslides, as it happened on 27th of July in 2011. Evidence and facts describing the aftermath of this event, dubbed as "natural disaster", helped to understand the condition of infrastructural development of the city. Another evidence, which led to the formulation of the strategy, was event called "Yongsan disaster" – a riot against demolition of the urban block in Yongsan, which caused deaths of 11 and called for more balanced development process. Hence the call for more "resilient urbanization" is based on critical examination of on-going urbanization and its environmental and social consequences.

Further elaboration of the strategy followed these questions: How to invent lost harmony? Is the ageing on the side of solution? How site and its qualities (density, transformation possibilities) can contribute? Which scale to address and which projects are strategic and which are not? To come up with spatial answers to these questions, site transformation strategies were defined, specifying the degree of transformation: former uses of rail-yards and warehouses to be redefined completely, and more fine-grain urban fabric to be elaborated more carefully. Further, zoning defines the territorial allocation of new programmes and development in relation to current and future trends. But the third tool is really the most important for the strategy: strategic urban project. It is the means how real change can be achieved. Taking into account enormous pace of Korean urbanization, harmony or balance, justice or qualitative growth (ageing), can be achieved only by mediating various scales and issues, such as natural forces, existing urban fabric and its social networks.

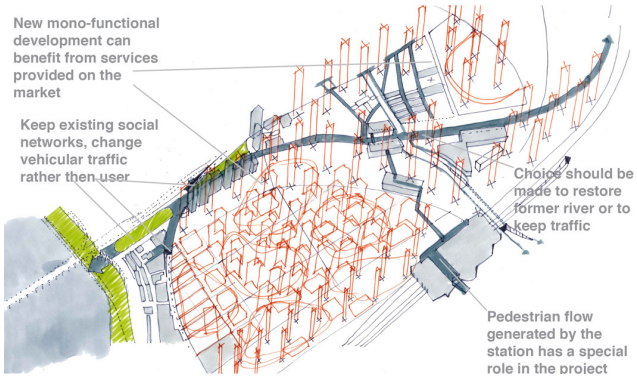


Fig 10: Yongsan market in the context of future development (made by Aleksandrs Feltins)

Fig 11: Yongsan market as a strategic project (made by Aleksandrs Feltins)

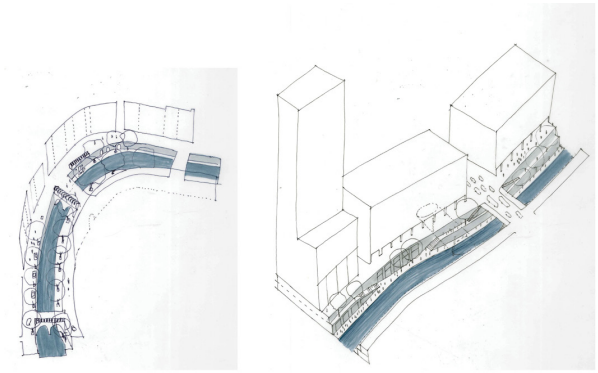


Fig 12: Comparison as a illustration of the solution: deep canals in Utrecht (left) and proposal in the same scale

Yongsan market was chosen as a strategic project which has a potential to mediate the developmental issue (figure 10). It is complex socio-economic structure, if retained would ensure social sustainability of the site.

On the other hand, the issue of water management in Seoul calls for more responsive development. Market was built on the former stream, which flowed to Hangang River, now tunnelled and lies beneath the street level. Strategic urban project addresses both environmental and social sustainability. It shows how former stream could be restored and how existing spatial structure and function integrated to future programmes (figure 11). To illustrate design, comparison with deep canals in Utrecht is used. (figure 12) Strategic urban project is a tool to critically examine the ability.

IV. Conclusions

In fact, critical thinking exists during the whole planning and design process in every urbanism projects.

Before starting design, a comprehensive research on the project context is necessary. We used to gather floods of information from the Internet, which may be partially relevant to the real problems, thus confusing and misleading our mind. Therefore, we need to think critically and filter useful information from the ready materials.

Moreover, critical thinking is used to rationally organize the whole design process, and develop an appropriate methodology to achieve the final objective of the project. For example, a logic storyline is one of the representations for the use of critical thinking in urbanism, which calls for the coherent understanding of the whole project. Meanwhile, picking only essential products to show your idea and design is also important. Communicative graphs and images should be chosen to present your final results. In addition, critical thinking skill is also required during the communication with your colleagues and clients, a set of critical and reasonable arguments should be formulated as the base for your design.

In the end, evaluation is obviously a crucial part that requires critical thinking skill, both when criticizing others' work or evaluating our own design. Being skeptical, we can recognize the positive and negative effects of a design proposal, raise questions when we doubt something and keep thinking and researching for different alternatives. This should be the right way that we are supposed to learn as an urbanist.

As a conclusion, critical thinking is the necessary skill for an urbanist, and it is served as a guideline that gives you direction during the whole planning and design process, including research, analysis, design, communication, presentation and evaluation.

V. Recommendations

Division of the studies into quarters have some qualities and drawbacks. The good aspect of having four different projects in one study year may develop and require some aspects of critical thinking such as flexibility in terms of availability to accustom oneself to the new assignments and perspectives. However, without fundamental skills of critical thinking, this potentialities can quickly become drawbacks. We recommend to support frequently changing project work with more fundamental studies, based on literature studies and critical reflection, possibly in the form of regular seminars.

Methodology course should be expanded, at least doubled and started right from the beginning. If our education and practice is moving towards perpetual group-work, its culture should be substantially supported.

References

ROBINSON and JOHNSON, 1997, fourth edition "The Buddhist Religion: A Historical Introduction". New York Wadsworth Publishing Company.

YAO X. 2000. "An Introduction to Confucianism". Cambridge University Press.

EDWARD C. 1998, "Routledge Encyclopedia of Philosophy", Volume 7, Taylor & Francis

COTTRELL S. 2005, "Critical Thinking Skills: Developing Effective and Arguments".

ENNIS R. H. 1993. "Critical Thinking Assessment". Theory into Practice, Volume 32, P.3

SOJA E. et. al. , "Global City-Regions: an Overview".

HALPERN, D. F. 2003. "Thought & knowledge : an introduction to critical thinking", Mahwah, N.J.: Lawrence Erlbaum Associates, Publishers.

PALMBOOM, F. 2010. "Drawing the Ground, Layering Time. In Drawing the ground, landscape urbanism today: the work of Palmbout Urban Landscapes". Basel: Birkhäuser.

RAPHAEL, F. & MONK, R. 2000. "The great philosophers", New York: Routledge.

Competition | Vertical Cities Asia International Design Competition. Available at:

http://www.verticalcitiesasia.com/?q=competition [Accessed May 6, 2012].

Know this!

Different kinds of knowledge and their implications for urbanism

Bart van Leeuwen
(The Netherlands)

Myrthe S. Vermoolen
(The Netherlands)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

May 2012

Abstract – Being an 'urbanist' requires skills, values, qualities, tools, and knowledge. This essay addresses the term knowledge: what are different types of knowledge from an epistemological point of view, and what is their implication for urbanism? First an overview will be given of different types and qualities of knowledge. The four types are situational knowledge, conceptual knowledge, procedural knowledge and strategic knowledge. Different qualities of knowledge are the level, structure, automation, modality and generality of knowledge. Different kinds of knowledge in the domain of urbanism, where task performance and coming up with solutions through (experimental) design play a significant role, can be classified through this division. Furthermore, the question how knowledge is included in our academic and professional activity, will be addressed. Especially at the university, knowledge production is important. In the master course of Urbanism of the TU Delft, knowledge representation plays a big role. Conveying knowledge from teacher to student mainly takes place in the procedural type. Finally, some recommendations will be given on further research and improvement of the education.

Key words – Epistemology; knowledge types; knowledge qualities; conveying knowledge; knowledge production; knowledge representation; urbanism

Example Descriptions of Knowledge as a Function of Type and Quality

Qualities	*Types*			
	Situational	*Conceptual*	*Procedural*	*Strategic*
Level Surface ↔ deep	Case-based reasoning ↔ translation into domain concepts	Symbols and formulae ↔ concepts and relations	Rules/recipes/algebraic manipulation ↔ meaningful action	Symbol-driven search for formula ↔ analysis and planning
Structure Isolated elements ↔ structured knowledge	Isolated features ↔ grouped together (i.e. models of situations)	Independent concepts and laws ↔ meaningful (hierarchical) structure	Isolated algorithms ↔ action related to concept or principle	Isolated actions ↔ Coherent set of sequential actions
Automation Declarative ↔ compiled	Conscious and stepwise ↔ automatic translation to domain concepts	Verbalizable principles, definitions, etc. ↔ intuitive, tacit understanding	Conscious choice and step by step execution ↔ automatic access and routine execution	Step by step choices and planning ↔ automatic analysis and planning; parallel checking
Modality Verbal ↔ pictorial	Words and symbols ↔ pictures and diagrams	Propositions and formulae ↔ pictures, diagrams	Sets of production rules ↔ pictorial (diagrams, figures, graphs)	Sets of production rules ↔ pictorial (diagrams, figures, graphs)
Generality General ↔ domain specific	General properties (e.g., homogeneous, time independent) ↔ domain specific characteristics	General structures of domains ↔ a specific domain, and also: conservation laws ↔ specific cases thereof	Define system for application of conservation laws ↔ check points of contact for forces	General steps (analysis, planning, etc.) ↔ specific steps (thermodynamics: system, interaction, process, etc.)

Table 1 *Knowledge as a function of type and quality, adapted from De Jong and Ferguson-Hessler (1996, p. 111).*

1 Introduction

Being an 'urbanist'[1] requires skills, values, qualities, tools, and knowledge. Going through the different stages of the cognitive structure of creativity, or through the different phases of designing, you will need background knowledge of some kind (Guney, 2009, pp. 6,10). This knowledge needs to be acquired somehow. Learning therefore plays a significant role. In order to know how to learn, you need to know what types and qualities of knowledge there are to be learned.

However, in scientific research over the past few years, many constructs and terms for different kinds of knowledge have been used. Some examples scanning through just one article are: prior knowledge, sociocultural knowledge, tacit or non-propositional knowledge or implicit knowledge versus explicit knowledge, conceptual knowledge versus metacognitive knowledge, content knowledge, domain knowledge, discipline knowledge, word knowledge, discourse knowledge, text-structure knowledge, syntactic knowledge and rhetorical knowledge, knowledge of plans and goals, strategic knowledge, metacognitive strategy knowledge, task knowledge, self knowledge, conditional knowledge, declarative knowledge, procedural knowledge, schemata, and topic knowledge (Alexander, Schallert, & Hare, 1991). Please note that the purpose of Alexander et al. (1991, p. 317) already was to structure the field of terms that seem to duplicate, subsume, or contradict one another by presenting a conceptual framework for organizing and relating terms that may improve understanding.

Obviously, it is very hard to describe knowledge without using many specific terms. The goal of this paper is to make an overview of different kinds of knowledge from an epistemological point of view. Furthermore, their implications for urbanism are discussed. Which types of knowledge are relevant for this domain? How are different types of knowledge reflected in our activity as an urbanist, and how can we include this in our academic and professional activity? And how are the different kinds of knowledge reflected in the Urbanism master program of Delft University of Technology (TU Delft)?

2 Types and qualities of knowledge from an epistemological point of view

In this paper, knowledge will be described from an epistemological point of view. Epistemology is the branch of philosophy dedicated to the study of knowledge. The word epistemology is derived from the Greek words episthmh ('episteme') which means 'knowledge', and logos ('logos') which means 'study of'. This field tries to address the questions: What is knowledge? How is knowledge acquired? And to what extent is it possible for a given subject or entity to be known? (Brandt, 1967, p. 6). The focus in this field lies on analysing the nature, acquisition and conveyance of knowledge and how it relates to notion of truth, belief and justification.

What is it that makes a belief classify as knowledge? The most obvious answer to this might be when it is true. However, this is not entirely the case. A belief has to be true, but also has to be explained and defined, so in order for something to be true one must belief it to be true and one must have a good reasoning for believing it to be true. This defines knowledge as 'a justified true belief' (Guney, 2009, p. 2; Tilburg University, s.d.).

However, in 1963 Edmund Gettier came with a new argument that questioned this theory and stated that a justified true belief would not necessary classify as knowledge, because

1 The term 'urbanist' is not an official English word, but a literal translation of the Dutch word 'stedenbouwkundige', which means urban planner or urban designer.

Image 1 *Before designing, a historical analysis of rivers, creeks and polders of Rotterdam and its surroundings is made (left). The current layer of infrastructure and built surfaces has been layed on top of this, to identify conflict situations (Heeling, Meyer, & Westrik, 2006, p. 120).*

it is possible for people to justify their belief with invalid arguments and this belief could yet be true by sheer coincidence (Gettier, 1963).

Scientists arrive at certain beliefs by a process of reasoning or inference. How do we know if premises are true? Okasha (2002, pp. 18-39) states that there are deductive and inductive patterns of reasoning. Deduction means that if the premises are true, then the conclusion must be true. For example, if it's true that all Dutch people like cycling, and if it's true that Fred is a Dutch man, it follows that Fred does indeed like cycling. The premises of the inference entail the conclusion. Whether the premises are true is a different question, but the inference remains deductive.

In inductive inference one moves from premises about objects that are examined to conclusions about objects that are not examined. Scientists use inductive reasoning whenever they move from limited data to a more general conclusion. For example, let's say that the first nine bicycles out of one series all break down within one month. Fred's bicycle is the tenth bicycle out of this series. Therefore, Fred's bicycle will break down as well. But sometimes, a false assumption has been made or there is only a correlation, no causation, so we can not 100% surely say that in the not yet examined case the conclusion will be true.

So in the field of epistemology knowledge is defined as 'a justified true belief that does not depend on false premises'.

What kinds of knowledge can be distinguished? De Jong & Ferguson-Hessler (1996) introduce a matrix that takes types and qualities of knowledge as its dimensions, according to which all kinds of knowledge can be classified. They do this from the perspective of knowledge-in-use. De Jong & Ferguson-Hessler (1996, p. 106) state that epistemological approaches are task dependent, and that there are different classifications for different types of tasks. The classification of De Jong & Ferguson-Hessler deals with knowledge in the domain of physics, where task performance in the form of experimental work and problem solving plays a leading role. This classification is also valid for the domain of urbanism, because creativity, task performance and coming up with solutions through (experimental) design play a significant role in urbanism.

Four types of knowledge are identified: situational knowledge, conceptual knowledge, procedural knowledge and strategic knowledge (see table 1). The first type, situational knowledge, is knowledge about situations as they typically appear in a certain domain. This is case-based cognition; in the field of urbanism this could for instance be information on current functionality, or historical data on a specific design location. A design office that is well known for designing by doing extensive research into location history and underlayers, is Palmbout Urban Lanscapes. An example of this is shown in image 1.

Designers can make designs bound to its context and these designs are therefore unique due to its location; however these designers are equipped with knowledge based on prior experience, and often the same concepts are used that lead towards a design, making the design not as unique as they claim it to be.

The second type, conceptual knowledge – also known as declarative knowledge – is static knowledge about facts, principles and concepts that apply within a particular domain. An example of conceptual knowledge in urbanism is the 'rule' that for a street to be experienced pleasantly, the width of the profile should at least be as wide as the height of the buildings along the street. These are conceptual design solutions that are not bound to a context and therefore can be used is many urban plans. The Why Factory at the TU Delft is a chair dedicated to developing this conceptual knowledge. This think tank explores the possibilities of future urban development through production of scenarios, models and visualizations, that can be placed anywhere on the map.

Another type of knowledge is strategic knowledge. A strategy is a comprehensive plan of action in which the or-

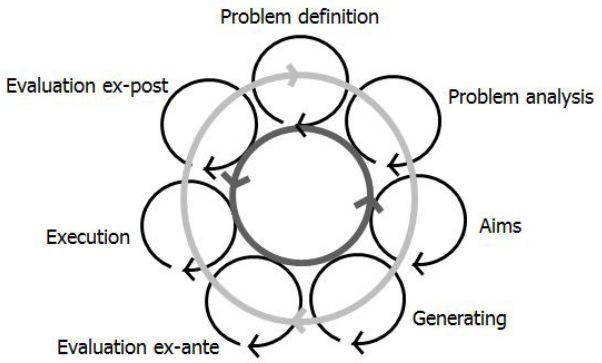


Image 2 *The planning cycle, derived from Spit and Zoete (2006, pp. 86-87).*

der of solution activities is defined, that can help organize the problem-solving process by directing which stages one must undergo to reach a solution. In the field of urbanism this would for example be the followed process on finding solutions for design problems. Spit & Zoete (2006, pp. 86-87) describe these phases of planning processes in their planning cycle (see image 2). Many designers, such as Frits Palmboom and Jaap van den Bout, follow this cycle during their design process.

The last type of knowledge distinguished by De Jong & Ferguson-Hessler is procedural knowledge. This means knowing which actions and manipulations are valid within a domain, which helps making the transition from one problem state to another. This would for example be knowing how to perform one of the steps in the planning cycle, like a problem analysis.

The other axis of the matrix deals with qualities of knowledge, namely the level, structure, automation, modality and generality of knowledge.

The level of knowledge can be divided into deep knowledge versus surface or superficial knowledge. Superficial knowledge is more or less stored in our memory as a copy of external information, whereas deep knowledge is the comprehension and abstraction of this information, making it useful for application and task performance. An example from the field of urbanism can be about public space and its functions in and around it. Superficial knowledge is knowing that there are for instance offices, shops and bars present. Deep knowledge means knowing what kind of impact these functions have on for instance the liveliness and safety of this public space. Each function namely attracts different types of people on a different time of the day (Jacobs, 2003).

The structure of knowledge can vary from isolated elements to structured knowledge. Experts can store the large amount of knowledge in their memory by chunking information into large, meaningful units that are hierarchically structured. This way, the knowledge can be retained and applied easier.

The third quality that is distinguished is the automation of knowledge. Knowledge can be automated or compiled, and it can be non-automated. Beginners with non-automated knowledge execute their tasks in a conscious, step-by-step manner, whereas experts have compiled, automated knowledge tailored for a particular type of application, that leads to a fast and reliable task performance. We can assume that experts in the field of urbanism possess more automated knowledge than novices. When reading a map of an urban design a novice might need to apply deductive skills to read all the information on the map, while experts can rely on their experience and automated knowledge to read this information directly (Göker, 1997).

There are two modalities of knowledge: verbal or analytic knowledge, and pictorial or analogue knowledge. An example of pictorial knowledge in urbanism would be knowing what kind of images to use to tell your story, e.g. use a section to show height difference. Verbal knowledge would be knowing how to verbally explain your urban interventions. Regarding these two modalities, there is a certain tension between planners and designers.

Planners tend to rely more on their verbal knowledge, which is characterized by a linear way of reading and is more abstract. On the other hand, while developing their ideas, designers use their pictorial knowledge for a number of forms of graphic representation (Menezes & Lawson, 2006). These are non-linear – the reader can choose where to start reading the image or map – and more concrete. A risk of using your pictorial knowledge to convey your design, especially in the field of urbanism, is that an image can make statements on how something will or should look, even when this is not entirely sure, and not the purpose of this image.

The last division in qualities is that of general knowledge versus domain specific knowledge. Both knowledge about general properties, structures and steps, and about domain specific characteristics, cases and specific steps are needed. Within the field of urbanism several domains can be identified, among many others are socio-economics, demography or traffic engineering. An urbanist possesses the general knowledge to make an urban expansion plan, and e.g. can make a infrastructure plan based on precedents and past experience. But when it comes to for example a complex traffic situation inside this plan, a traffic engineer possessing the domain specific knowledge has to be consulted.

De Jong & Ferguson-Hessler (1996, p. 105) claim that classifying knowledge according to this matrix will prevent the introduction of more types of knowledge, but nevertheless along the article additional kinds of knowledge sneak up, like 'expert' knowledge, or 'ontological' knowledge, that did not find a place in their matrix (1996, pp. 108, 111).

3 Knowledge in urbanism

What role does knowledge play in the academic and professional activity of an urbanist? And how is this theme reflected in the master track Urbanism at the TU Delft?

Going through the different stages of the cognitive

structure of creativity, or through the different phases of urban designing, you will need background knowledge of some kind (Guney, 2009, pp. 6,10). This knowledge needs to be acquired by learning. Conveying knowledge from teacher to student, or from expert to beginner, therefore plays a significant role at the university and in planning practice.

Guney (2009, p. 7) states that creative "education systems should not overload student's minds just with a lot of data, [but] should help them develop skills for interpreting information, searching for alternatives, improving their insights and synthesizing responses." Self-education is the keyword. In the master track of Urbanism at TU Delft this creative education system is applied. Here, the emphasis is more on design studios, where teacher provide more procedural and strategic knowledge. It is expected that students acquire descriptive and conceptual knowledge themselves, or that they have already acquired this background knowledge during the bachelor track. For students that have done their bachelors in Spatial Planning elsewhere, the latter may be true. At the TU Delft however, the bachelor program consist for about 20 percent of urbanism related courses[2]. The bachelor program namely consists of architecture, landscape architecture, urbanism, real estate and housing, and building sciences all together. All students have to follow the whole diverse bachelor program, and choose a specific master afterwards, with the result that they know a little bit of everything. When starting the master track of Urbanism, a lot of this domain specific situational and conceptual knowledge therefore lacks.

Because urbanism at the university of TU Delft is a scientific education, knowledge production is a significant part of it. This is one of the main differences between the higher professional education (in Dutch: 'hoger beroepsonderwijs, HBO') and the university education (in Dutch: 'wetenschappelijk onderwijs, WO').

Because urbanism at the university of TU Delft is a scientific education, knowledge production is a significant part of it. This is one of the main differences between the higher professional education (in Dutch: 'hoger beroepsonderwijs, HBO') and the university education (in Dutch: 'wetenschappelijk onderwijs, WO'). Gray & Schubert (2009, p. 5) state that there are two modes of knowledge production. The first one is scientific research. The second mode is problem-focused, practice-oriented, cross disciplinary, and engaged research. Both modes of research supplement each other and are needed to develop useful knowledge.

At the university, knowledge is produced for instance by students writing their thesis at the graduation studios of Urbanism, or by PhD candidates. The Why Factory takes a special place in the knowledge production at the TU Delft, because this studio is dedicated to producing conceptual knowledge about the possibilities of future urban development, as is mentioned in paragraph two (The Why Factory, s.d.).

As urbanism is a design domain, knowledge representation gets a special place in the academic and professional activity as an urbanist. Guney (2009, p. 3) addresses language-like representations and image-like representations, that can be compared with the two modalities of knowledge described by De Jong & Ferguson-Hessler (1996). Each person can have different strong and weak points in their cognitive devices. Some students can be strong in language-like representations and can express themselves well, but may have less compositional sense or sense in third-dimensional space. This also relates to the tension between more verbal representations of planners, and pictorial representations of designers described above. Teachers should encourage learners to get acquainted with different kinds of knowledge representation, to learn their own weak and strong point and to use all abilities that they have got.

The TU Delft Urbanism course is characterized by many mid-term and final presentations by students. They need to visualize their design through poster, PowerPoint, or model. However, a verbal explanation of their design is as least as important. Learning and practicing how to make a so-called 'elevator pitch' (procedural knowledge) for example is therefore very important.

4 Conclusions

To be an urbanist, one needs skills, values, tools, qualities and knowledge. In science there are many terms used for different kinds of knowledge. De Jong & Ferguson-Hessler (1996) distinguish types and qualities from an epistemological point of view. The four types are situational knowledge, conceptual knowledge, strategic knowledge and procedural knowledge.

Different qualities of knowledge are the level, structure, automation, modality and generality of knowledge. It is hard to give examples of these types and qualities of knowledge specifically for the field of urbanism. Partly because there is just not much research done about knowledge in this field – a lot is written about knowledge and learning in creative design studies in general, but not about urbanism specifically – but also because in urbanism, knowledge from a lot of different kinds of domains is integrated. Social and behavioural sciences, demography, economics, law, landscape design, water- and nature management, sustainability, traffic engineering, and many others, they all come together in urbanism.

It is difficult to place knowledge in a particular box, there is no single classification that is exclusive. De Jong & Ferguson-Hessler (1996) try to achieve this, but even they need extra terms for knowledge other than the ones they place in their matrix. For further research about types and qualities of knowledge in urbanism, there is still much to achieve.

In the academic and professional activity of an urban-

2 35 out of 180 ECTS touch the domain of urbanism, and only when you choose your elective courses in the Urbanism domain.

ist knowledge plays three roles. First there is the conveyance of knowledge, or learning. Second, because urbanism is a design domain, attention is given to knowledge representation. And third, especially at the university, knowledge production plays a huge role in urbanism.

5 Recommendations

Finally, some recommendations to improve the Urbanism course at the TU Delft are given. In the master track Urbanism at the TU Delft conveying knowledge from teacher to student mainly takes place in the procedural type, because of the huge emphasis on the design studio. Therefore, conveyance of situational and conceptual knowledge lags behind. A recommendation is to let students choose for Urbanism in an earlier stage in the bachelor program, so that courses that are specific for Architecture, Real Estate & Housing, or Landscape architecture and not for Urbanism (like the Building Technology series) can be replaced by courses that are domain specific for Urbanism.

Both verbal and image-like knowledge representations must play a role in urbanism, because urbanists are not purely designers, but also planners. Some students may have other strong points of different representation modes than others. Teachers should encourage learners to get acquainted with different kinds of knowledge representation, to learn their own weak and strong point and to use all abilities that they have got.

References

ALEXANDER, P. A., SCHALLERT, D. L., & HARE, V. C., 1991. Coming to terms: How researchers in learning and literacy talk about knowledge. Review of Educational Research, 61(3), 315-343.

BRANDT, R. B. (Ed.) 1967. The Encyclopedia of philosophy: Epictetus to Hilbert (Vol. 3). London: Macmillian.

DE JONG, T., & FERGUSON-HESSLER, M. G. M., 1996. Types and qualities of knowledge. Educational Psychologist, 31(2), 105-113.

GETTIER, E. L., 1963. Is justified true belief knowledge? Oxford University Press Analysis Committee, 23(6), 121-123.

GÖKER, M. H.,1997. The effects of experience during design problem solving. Design Studies, 18(4), 405-426.

GRAY, M., & SCHUBERT, L., 2009. Knowledge, experience and art in an innovative community-based study. Experiential Knowledge, Method & Methodology.

GUNEY, A., 2009. Empathy oriented 'creative' teaching and learning methodologies. Inted, Madrid, Spain.

HEELING, J., MEYER, H., & WESTRIK, J., 2006. Het ontwerp van de stadsplattegrond. Amsterdam: SUN.

JACOBS, J., 2003. The death and life of great American cities - the uses of sidewalks: safety. In R. T. LeGates & F. Stout (Eds.), The city reader (pp. 114-118). London: Routledge.

MENEZES, A., & LAWSON, B., 2006. How designers perceive sketches. Design Studies, 27(5), 571-585.

OKASHA, S., 2002. Philosophy of science - a very short introduction. Oxford: University Press.

SPIT, T., & ZOETE, P., 2006. Ruimtelijke ordening in Nederland - Een wetenschappelijke introductie in het vakgebied. Den Haag: Sdu Uitgevers.

THE WHY FACTORY. (s.d.). Think Tank on Urban Futures. Retrieved on May 06 2012, from http://www.thewhyfactory.com/?page=thewhy

TILBURG UNIVERSITY. (s.d.). Wat is epistemologie? Retrieved on April 26 2012, from http://www.tilburguniversity.edu/nl/over-tilburg-university/schools/geesteswetenschappen/watisfilosofie/epistemologie.html

Collaborative Planning and Design

Or how can urbanism benefit from collaborative planning and design?

Liviu Teodorescu
(Romania)

Wu Xiayu
(China)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2012

Abstract – This article represents an insight into the concept of the collaborative effort and its implications in the field of urbanism. Our research started with a question: how can urbanism benefit from collaboration? To answer this we have defined collaboration in urbanism pertaining to the processes of planning and design, two key elements in this field. We sought to answer this question by creating an argument based on known literature in this domain.

The paper is divided into two main parts: the first part is comprised of the first two chapters and presents a summarized view on collaborative planning and design in urbanism filtered through the utopian model of the first half of the 20th century. This was done in order to make a comparative study between two different approaches in urbanism in an attempt to establish the benefits of collaboration. The second part, chapters three and four, presents two case studies relevant to a collaborative approach in order to cement the argument and show exactly the impact of collaboration in these projects.

Our conclusion is that because the city is becoming an increasingly complex network of diverse systems only through plural knowledge created out of debate and reflection between all stakeholders involved one can hope of creating better places for the community affected.

Key words – collaborative planning, communicative action, complex network systems, inclusive design

1 Towards a collaborative planning approach

The last decades of the 20th century saw a shift in the urban planning paradigm from a comprehensive rational planning process to one more dedicated to understanding the complex power relations of urban regions and stakeholders, an overall inclusive phenomenon which aims to bring forth the desires and voices of all the parties implicated in the final outcome. Subsequently this shift segregated the domain of urban planning into two main ideologies: one concerned with adapting a scientific model of the city and relating planning incentives to scientific methods and models as means for appraisal of the complex relations of urbanity and a second one which tried to approach the city from the perspective of the humanities and social psychology (Portugali 2011). Moreover the domain of urbanism was in continual change and adapting various influences from other professions such as engineering and economics producing as a result of this a theory and practice of urbanism (ibid).

One of the theories and ideologies that have been gaining momentum in the past 20 years is collaborative planning a term, which akin to sustainability lacks an exact and singular definition and a recipe for implementation. Notwithstanding this Blake has identified its core principle relating to the idea that there is a universal right of citizens to participate in developments that will impact their lives (Blake 2006); hence the collaborative aspect. Furthermore the author identifies collaborative planning and design as being driven by the recognition of the professional designer's sometimes inability to resolve the issues and problems of society and moreover it represents and addition of morality and political content to professional practice. This morality and politics of collaborative planning are based on the assumption that through the participation of all the stakeholders involved and affected by the planning process the premise is set for a more beneficial design and for the best possible outcome. Brand also identifies that the germ of creation for a collaborative planning agenda was based on the desire of shaping social space in accordance with the features of contemporary society, which included:

'The postmodernist perspectives on the reduced certitudes and predictabilities of a complex world; the putative shift to new modes of governance that acknowledges the need to involve multiple stakeholders; the cross-fertilizations among these stakeholders, supportive of a creative milieu for the changing economy; and the increasing hegemony of neoliberalism that some see less in terms of de-regulating and privatizing the public realm, but rather as dismantling old divisions between state and market to accommodate new synergistic partnerships' (Brand 2007, p 284)

One of the theoretical backdrops onto which collaborative planning operates is Habermas's notion of communicative action in society in which through debate and interaction the premise is set for a reach of agreement between societal agents, governmental and non-governmental. So what for Habermas was coordinating action in society for urban planners was coordinating actions in urban space. This coordination is seen as a discourse between three entities: the public sector, the private sector and the third sector comprised of various non-profit and nongovernmental agencies (Portugali 2011).

There is widespread belief among collaborative planners that one of the most important steps in taking a collaborative, inclusive approach is asking the right questions to support debate. In light of this, Brand has identified collaborative planning as a sum of questions that urban planners need to ask regarding: power relations and their involvement in a particular issue, the winners and losers of a specific development, the arguments used in forging coalitions, the mode of influence of a certain situation over the general mode of thought about an issue. (Brand 2007) He further adds that 'collaborative planning is all about disassembling the black box of our situatedness and of the constructed-ness of whatever situation happens to prevail 'out there''. (ibid, p 288).

Further we will try to filter the notion of collaborative planning through the utopian ideology of planning in the hope of drawing some conclusions about the planning mistakes made in the past. Secondly we will try to analyse two case studies that have adopted a collaborative approach with excellent results: firstly the Detroit Hispanic Development Corporation (DHDC) featured in the film "Detroit Collaborative Design Centre amplifying the diminished voice". The film depicts the planning and design approach of a design office, Detroit Collaborative Design Centre (DCDC) and how they tackled the design of a 28,000 square foot community centre. And secondly the High Line project in New York City as a re-vamping of a derelict freight line into a green public space for the community.

2 Collaborative planning and the decline of the utopian model

The modern utopian model for urban design can be seen as one answer to the dialogue and clash of urbanity and modernity. (Muller et all, 2004) have identified that urban planners can engage in three activities relating to design, investigation and communication. Moreover they have stated that the optimal condition of practice is to intertwine these responsibilities into a cohesive whole but unfortunately the normality of the profession is to favour one of these over the other. They argue that such preference of one activity over another has resulted in poor and superficial design solutions.

In the beginning of the 20th century several urban schemes sought to solve the problems of the modern city exclusively through the exercise of design. Therefore one major flaw that is attributed to utopian schemes of masters such as Howard, Le Corbusier or Wright was their assumption that through spatial and aesthetic manipulations one can solve the problems of the city and therefore of society. Consequently their designs were reduced to basic abstractions (expressionist architecture) that did little to take into account the many intricacies and complexities which govern the urban domain one that is not neces-

sarily comprised entirely of mineral form but also society, culture, market forces and governance. Moreover, Le Corbusier practiced an almost "tabula-rasa" strategy of erasing the past and clearing the path for a new "man's way" development guided by rationality and scientific methods.

Notwithstanding this, utopian models had one major strong point: the fact that one can derive simple rules and methods to guide development and apply those rules regardless of place or simply put the fact that they could be mass produced. Therefore although these utopias were hardly or partly realized, their disciples extracted clear design rules with which they could govern their designs.

Collaborative planners argue that the city is not alike a rational machine that can be dissected through atomistic rationality but a complex organism that governs itself through sometimes discrete and fine methods and is virtually self-organizing (Portugali 2011).

This blind belief in a new rationality and aesthetics in design through which society could better organize itself and flourish led to several modernist projects that are now seen as heinous mistakes. One of the most infamous examples is the Pruitt-Igoe housing complex built in the mid 1950's in St. Louis, The United States where the community or the designated users were segregated into different housing blocks based on class and ethnicity (the middle class whites versus the lower class African Americans). This careless disregard for the cultural and social context in which the project operated led to the creation of a place with one of the highest crime-rates in the city. It is a perfect example of a top-down implemented project for a faceless crowd of inhabitants where the planners and architects operated as sole designers with their own design agenda without engaging in any sort of form of discussion and debate with the local community about what should be built in their neighbourhoods. It was singular enforced knowledge that was misunderstood and misused by the local community.

Collaborative planners argue that the city is not alike a rational machine that can be dissected through atomistic rationality but a complex organism that governs itself through sometimes discrete and fine methods and is virtually self-organizing. (Portugali 2011) Moreover they advocate that planning should not be seen as only a physical action operating with quantitative elements pertaining to proximity and physical relationships between urban elements but should also take into account more fine qualitative elements that permeate subtle notions such as culture, ethnicity, social status and place of living. Brand argues "spatial realities cannot be reduced to geometries without losing the rich and crucial complexities of real life". (Brand 2007, p 286) Therefore one can conclude that expert, singular knowledge, as a generator of designs is prone to failure for the fact that it is misunderstood. Knowledge should be plural, collaboratively produced and multicultural where every member of the community shares their input into its creation. The following sections present two projects that make use of shared knowledge as a generator for design.

3 Detroit Collaborative Design Centre (DCDC)

Detroit Collaborative Design Centre is an architecture and urbanism office based in Detroit. The office distinguishes itself from the traditional design firm in the sense that it has employed from its' beginning a close relationship and dialogue between all stakeholders of a project. Consequently for the design of a community centre for the Detroit Hispanic Development Corporation the firm opted for an inclusive approach. From the early design phase several workshops were organized and funded by the design firm and were open to all stakeholders of the DHDC. These workshops took place once a month over several months and had multiple aims:

'The development of a project statement, a site walk-through, a variety of design programming extending beyond conventional practice, an introduction to architectural language and its meaning, site tours of similar projects, literacy about how to read floor plans, spatial allocation modelling, digital mapping of the building and site, budget negotiations, design feedback sessions and a presentation of the final work and package for capital fundraising purposes' (Blake 2006, p 227)

The stakeholders included building users, staff and board members, contractors, the architects and designers, funders, technical assistance providers and local residents that may be impacted by the new development. During the workshop sessions participants expressed their frustration with the common practice of a design office stating that many designers had their own design agenda regarding certain projects and that they were reticent to invest outside creative input and decision control into their projects even if that input came from the community in which the project would operate. Simply put, designers had little desire to discuss designs with persons who did not qualify as design experts.

Therefore they regarded knowledge creation exclusively as a product of an expert mind, trained in the aspects in question, and in essence they attribute knowledge to a solitary act. Conversely, the collaborative approach is based on the notion that knowledge should be diverse and plural one that resembles a collective learning process that spawns knowledge that is negotiated between diverse individuals. (Brand 2007)

As a result of this ideology, DCDC believe that knowledge sharing stands at the core of a good collaborative practice with designers not being afraid to draw input from the stakeholders' experiential knowledge. Therefore although it is a common assumption that participation compromises design quality one cannot help to draw the attention that if there is to be a plural knowledge base then those individuals participating in knowledge creation should have a common communications code. This begs the question: can lay-people effectively participate in a design process?

The tools and techniques that DCDC have employed during their workshops to tackle this challenge include: site visits to similar projects, interviews and focus groups with current and former stakeholders, building occupants, architects, contractors. They provided the participating public with an understanding of how a typical designer thinks and insight into the language they use, engaging the public into three dimensional mapping exercises to explore how a building program works and physical exercises that explain professional products such as a building cross-section by using simple examples found in everyday life e.g. cutting a doughnut to explain how a building section works.

Furthermore the workshops provided participants with specific knowledge regarding overall budget and design decisions. Scenarios that exploited the relationship between good, fast and cheap design were explored and stakeholders understood that a good and cheap design was possible but that fast and cheap was highly unlikely. As a result of this stakeholders had a better understanding of the decision making processes that come into play in a design and where compromises are required and why. And most importantly, the designers of DCDC did not restrain themselves from giving course to design decisions made by the stakeholders, encouraging them to bring examples of designs they liked. Therefore they strove for a better understanding of the likes and dislikes of stakeholders which when discovered early in a design stage therefore eliminating subsequent argumentative battles over the final product in a later phase of the project.

Because more than often miscommunication between the parties involved in a discussion can arise from misinterpretation or lack of knowledge regarding certain specific professional terms the DCDC sought to communicate their ideas in plain English so that both the architects and stakeholders involve could engage in the discussion with greater effect. Consequently, a process of "drawing out the local knowledge" started where the stakeholders and designers started to build a relationship of trust. As a result of this designers learned the importance behind certain cultural aspects in the community such as hip-hop music, the desire to have children fully interacting within the building, the importance of cafes and the media centre as a community leisure place, "the goals of the program staff to maximize the privacy of people just informed of positive HIV/AIDS status; and the need to protect the abused from those who abuse them". (Blake 2006, p 237)

At the end of the series of workshops the general consensus among stakeholders was that their opinions were heard and respected and that their cultural and social values were incorporated into the design process. Moreover they felt that the designers had learned something that they might use in their future practice.

One debate over an inclusionary and collaborative approach is that it comes with additional design costs. Taking the DCDC experience as a test base the evidence points to the contrary. Although the DCDC does spend more money in the early design phase through community participatory workshops this initial investment is recuperated through the reduction of time designated for the construction phase. Moreover because of fruitful collaboration between stakeholders the need for retrofitting the project after it is built is eliminated further saving construction costs.

4 The High Line Project

The High Line Project is another example of a design endeavour, which has made use of the collaborative planning approach.

Its history dates back from the 1930's when it was part of a public-private infrastructure project called the West Side Improvement. The idea of the project was to lift freight cargo roughly 10 meters in the air clearing the streets of Manhattan's largest industrial district from dangerous freight traffic. The train lines had a length of about 20 km and ran from 34th Street to St. John's Park Terminal directly through the city blocks making a direct connection to the factories therefore allowing the trains to roll straight inside the buildings. Because of several decades of decline in freight traffic due to the constant growth of interstate trucking since early 1980 the line has not been used and in the mid 1980's several groups of property owners that owned land plots below the High Line lobbied the municipality for the demolition of the train lines.

Fortunately the demolition efforts were stopped in court by a resident of Chelsea spawning the creation in 1999 of the community organization called Friends of High Line by two residents of the High Line neighbourhood. Its mission statement was the preservation and reuse of the High Line as a public open space for the community and included mainly residents, which lived in this neighbourhood.

The organization further pleaded to the municipality about the feasibility of this project and in March 2002 it gained support from the city council. As a result of this a massive design competition was organized with the design entries being displayed at Grand Central Terminal. One important thing to point out is that the jury was formed as a partnership between the city council and the Friends of High Line.

What is more the Friends of High Line were constantly holding community sessions to encourage community members to give input into what the design should become. Thus throughout the design process community input was extremely important to the whole project with all the competition design entries being made available to the public for debate and criticism. Therefore the project winners were in part chosen by the community.

In the aftermath of this debate a private and public partnership was formed between the State of New York, the City of New York and CSX Transportation Inc. (the company which owned the High Line). This partnership cooperated with the Surface Transportation Board in the aim of approving the transformation of the disused train line into a pedestrian line.

Consequently in November 2005 the City of New York took ownership of the High Line from the railroad company which donated the structure and the process of transformation was underway.

It is paramount to point out that without the collaboration of all the parties involved in this process the High Line would have been realized as a new public space element for the city of New York. More than probable it would have been demolished with its land underneath being transformed in new office or retail development areas. Its collaborative aspect was present in all stages of the planning: from the first incipient steps taken to save the line through the formation of a community entity the Friends of High Line, their subsequent discussions and debates with the municipality down to the final stages of the design project which was a collaboration of a landscape urbanism office and an architecture office. Without the openness of all the parties involved in the debates and their willingness to reach a common goal this endeavour would have been uncertain. Through this collaborative effort The project has been successful and is an important leisure element for the inhabitants of the area in part for the reason that the community actively participated in its creation. More parts of the West Side Improvement project are in plan for further reuse by using similar methods of collaboration.

Collaboration is at the mainstay of human evolution and implicitly is ever present in how individuals think about and influence the city. Because of the ever-increasing complexity in all knowledge fields the notion of strict authorship is gradually being dissolved.

5 Conclusions

Collaboration is at the mainstay of human evolution and implicitly is ever present in how individuals think about and influence the city. Because of the ever-increasing complexity in all knowledge fields the notion of strict authorship is gradually being dissolved. This too is present in the field of urbanism and architecture where we can already witness a switch from the past strict authorship to the rise of networks of design firms where the project is the result of a collaborative effort rather than a product of an old master architect. However collaboration as an inclusive from of debate between all the stakeholders of a project is still in its incipient phase mainly due to the fact that professionals still regard design as strictly an expert's domain. One would think of China or many of the developing countries as examples of heavy top-down planning implementation where the actual community has little to say in the matter and where "blueprint" urbanism is still being practiced.

Therefore if the collaborative effort is to function then some of the past conceptions about design and about who has the right to participate in a design effort should be abolished. The notions that knowledge production is a collective effort and that there are many forms of knowledge that are pertinent to a certain goal, that design is not only for the expert designer but can incorporate many individuals from different but complementary fields and also the community, that the complexity of the urban domain is too great to be tackled by just a handful of entities and that being a network of systems it affects its constituent parts, that every individual has the right to invest himself in a project and criticize it if it affects his life, should be taken into consideration.

We have chosen to leave the questions of the assignment as an added part to the essay. They represented the first incipient thoughts into this article. In order to better explain our answers we have defined collaborative planning as being comprised of two main parts: internal collaboration and external collaboration.

Internal collaborative planning refers to specific entities or systems of actors involved in the design process that share certain traits; (e.g. the design team is united by the same understanding of professional terms and notions and have an extensive knowledge about the design product, the government entities responsible for discrete planning on a political level and land administrators, community lay-men which share common desires about their place of design which may or may not involve all other entities). Conversely, external collaboration is seen as a dialogue between different entities which don't necessarily share the same language or professional code but have a part to play in the design.

A. **Why is this [theme] relevant for urbanism?**

The scope of urbanism can be compared to a complex network of systems comprised of actors with different cultural, social and professional backgrounds. In most cases these systems have conflicting goals and the complexity of the design problem is too great to be resolved by only one system alone as was the case with rational comprehensive planning. However, if one accepts design as a part of urbanism concerned with "making better places for people than would otherwise be produced" (Carmona 2003, p 3) then only by resolving the conflict between these different parties / actors involved and achieving a common ground and understanding of the problems / solutions dialogue can one hope of achieving the goal of design.

Moreover by giving voice to all the parties involved and affected by the design outcome one creates the premise of a successful project that enriches and supports people's lives and helps them to develop as better human beings.

B. How is this [theme] reflected in your activity as an urbanist?

Because of being in a still incipient phase in our careers as urbanists our involvement in collaborative planning has only been internal. Therefore acting as design assistants we have been involved in discussions amongst the design team regarding the overall vision and goals of the design process and

also their manifestations in actual design implementation in physical space. Therefore the questions of how, why and what have only been discussed within the design team. However, we also have taken part in sporadic discussions amongst the design team leaders and client this being the only part of external collaboration that was experienced. During this we have observed the client / designer discussions about the design in question and how they have tried to come to a general understanding about the implications of the design regarding all aspects. We call this process "the meeting of the minds".

C. How can you include this [theme] in your academic and professional activity?

Further extensive involvement in the two sides of collaborative planning is required. Through the academic funnel we expect to take part in future workshops and think-tanks about design ideas regarding the city and city fragments. We hope that these discussions will bring in concert individuals from different professional and academic fields but also the general public together with governance entities. We also hope that these debates will tend towards the productive side and lessons be drawn in the aftermath of the discussions. Also through academic exercises and individual projects we hope to contact different individuals that have a part to play in our design even if abstract. We call these entities "design validators".

Regarding the professional field and in light of recent world economic turmoil collaborative planning can have an important role in cutting design costs and time by making sure that all the implications regarding the design endeavour are understood by all parties. Also through this understanding and acceptance of all the voices in the design additional measures taken post-project implementation are greatly eliminated therefore minimizing after-costs. However during our professional activity we have observed architects and urban designers reluctant to accept and resolve the usual miscommunication in the client / designer dialogue, more often than not having to shift the blame only on the client entity. Acting as stakeholders in the design process as part of the design team one cannot help to mention the irony in receiving the same conduct from the design leaders as would the general public. We hope that through time and perseverance that our voices will be heard.

D. Is this [theme] reflected in the TU Delft Urbanism course? How? If not, what should be done?

Collaborative planning is reflected only to the extent that it is seen as an internal collaboration of actors / students with a generally common professional background but with different cultural and social backgrounds. Therefore seen only as an academic exercise, the collaborative design has a certain degree of success insofar as these actors share the same understanding of the professional methods and general terminology related to their profession.

However, their inner-relations are often times plagued with miscommunication created from cultural differences, different levels of understanding of the English language as a common communications code, different methods of practice stemming from various academic past-environments and a wide array of notions of what a designer considers a successful design.

Moreover, the external collaboration is only related to actors of architecture or urbanism backgrounds. Therefore the implications regarding professional differences are minimized. Nevertheless, as with architecture urbanism is facing a shift from a closed-off profession comprised mainly of professionals with an architectural-related background to a crossbreed of individuals coming from different professional backgrounds pertaining to fields such as the humanities and the arts, theoretical sciences, applied sciences, information technology. Conversely more often the designers have started to play a secondary role to other professionals.

Taking this into consideration the academic programmes at Delft Univ. of Technology, dept. of Urbanism should create the opportunity of establishing varied workshops with the aim of bringing together students from different academic backgrounds under the umbrella of developing design ideas. These workshops can be extended in the future to the general population where the design is critical and actual, one that is embedded into reality. These different actors can play different roles with tutors acting as session managers and mediators between professionals (the students) and lay-men (the community). If proven successful the complexity of the workshops can be increased by adding more stakeholders into these debate sessions.

References

BLAKE S., 2010. "Participatory Design and Howard Roark: The Story of the Detroit Collaborative Design Center", In: L. Sandercock, G. Attili (eds.), Multimedia Explorations in Urban Policy and Planning, Urban and Landscape Perspectives 7, 225-243

BRAND R. and GAFFIKIN F. 2007. "Collaborative Planning in an Uncollaborative World", Planning Theory, vol. 6(3), 282-313

CARMONA M. et all, 2003. "Public Places – Urban Spaces: The Dimensions of Urban Design", Architectural Press, Oxford

HEALEY P. 2003. "Collaborative Planning in Perspective", Planning Theory, vol. 2(2), 101-123

HEALEY P. 2003. "The communicative turn in planning theory and its implications for spatial strategy formation" In: Campbell S. and Fainstein S. (eds.) Readings in Planning Theory. Oxford: Blackwell.

JOHNSON J. 2005. "Complexity science in collaborative design", CoDesign: International Journal of CoCreation in Design and the Arts, 1:4, 223-242

MULLER D. et al 2005. "A Transdisciplinary Learning Approach to Foster Convergence of Design, Science and Deliberation in Urban and Regional Planning", Systems Research and Behavioral Science, 22, 193-208

PORTUGALI J. 2011. "Two Cultures of Planning", In: Portugali J. "Complexity, Cognition and the City: Understanding Complex Systems", 243-254

TAN E. and PORTUGALI J. 2012. "The responsive city designgame. Complexity Theories of Cities have come of Age" J. Portugali, E. Tan, V. J. Meyer and E. H. Stolk. Heidelberg, Springer.

How can Urbanism benefit from collaborative planning and design?

Communication as a key tool in effective collaboration

Sylvana van Baren
(The Netherlands)

Jiya Benni
(India)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2012

Abstract - In this age of specialization and global perspectives, the society we are in and the problems dealt with in urban planning and design are getting complex by the minute. The problems are sometimes of unimaginable scales and layers. This calls for the expertise of more than one discipline, in other words, it calls for collaboration. This essay explores the current fields of planning and design, the need for collaboration and how collaboration can be effective so that a project can be a success.

Key words – urbanism, planning and design, collaboration

1 Introduction

The main research question in this paper is how urbanism can benefit from collaborative planning and design. To give an answer to this question we first answered several other questions. Starting by answering the question what urbanism contains. TU Delft introduces Urbanism with the definition of Urbanism given by Pieter Verhaagen (1939): 'Urbanism is the synthesis of all factors that collectively determine the spatial use of the territory.' A compromise between planning and designing is an important part of urbanism.

This raises the question what planners and designers are and what do they do. Is there a difference between planning and designing? If so, than what is this difference? What does it mean, collaboration between planners and designers? We assume that collaboration is needed but do we also know why it is needed. How is it bad if urbanists, planners and designers do not collaborate?

In the conclusion of this paper the general questions are discussed, like: why is collaboration relevant and how are the benefits of collaboration reflected in our activities as an urbanist? (Give also main conclusions here.)

2 Planning, Design, Urbanism

'Urbanism at the city level is addressed to planners who make and implement plans, to politicians and administrators who legitimize and supervise them, to developers and property owners whose actions and decisions are conditioned by them, and to specific groups and the general public whose welfare and quality of life are affected by them. Both the planner and the planned may become more responsible and responsive in using our land to satisfy the many human needs' (Leung, H. L. 1944)

'Many scientists have raised the question: why plan?' (Leung, H. L. 1944) In our domain we can raise several questions concerning planning e.g. what type of planning is possible, in which stages of the process do we make what type of plan, what is the use of a plan, why do we plan in a team, who makes the plans and who is responsible for the outcomes, what are the advantages of planning and what are the disadvantages? Communication between different parties who are involved in the designing and building process takes place through drawn out plans. To make plans you have to be thoughtful and skillful. You are a part of the process that describes the desirable shift from 'what is' to 'what ought to be'.

For example: land-use plans are concepts about the spatial arrangement of land uses, with a set of proposed actions to make that a reality. The plan communicates the functions desirable in a certain place or location. 'Land-use planning is derived from land use theories. This land-use planning is a process of identifying and analyzing problems, defining goals and refining objectives, and developing and evaluating the options available to a community in pursuit of these goals and objectives.

Land use planning can be defined as the process of protecting and improving the living, production and recreation environments in a city through the proper use and development of land. Human behavior is very adaptable and human beings can sustain great environmental stress before breaking down, but the chief aim of good planning is to strain this adaptability as little as possible. By carefully matching human activities to the physical environment, planning tries to minimize this stress, although there will always be greater stress to some members of the society than others. Any sensible plan will try to maximize the potential of the environment for the use and enjoyment of the community as a whole.' (Leung, H. L. 1944)

Long-term policies (20-25 years), short-term policies (5-6 years) and maintenance require detailed planning. There are different types of professional planners. There are environmental planners, time planners, infrastructure and transportation planners, space planners (land-use planning), policy makers, engineers and detailers. All these planners are responsible for different parts of the plan. They have different focuses and interests. These different planners work at different levels for different agencies, e.g. environmental-, infrastructure - and space planners work for municipalities, social policy writers work for the regional or national government and engineers and detailers work in construction firms or with project managers.

Since the outcomes of a plan concerns human beings from all layers in society, it is wise to collaborate people from every layer within society in the planning process, like in any democratic enterprise. Only then can the plan integrate and live up to the expectation of an adaptable plan. But the 'technical and administrative machineries' created were based on 'a narrow and dominatory scientific rationalism'. These scientific machineries have compromised the democratic attitude required and have failed to deliver the goals. Consequently in the 1980s and early 1990s, there was a shift to alternative planning methods - one that shifted from material analysis to social and cultural concerns and another, which explored 'the communicative dimensions of collectively debating and deciding on matters of collective concern'. (Healey, P. 2003) This might have been the start of what we now describe as collaborative planning.

As Leung describes in his book, the five components for successful planning are:

1. 'Establish goals which represent legitimate public interests and which recognize the relative importance of the users, their expectations, and the proper relationship among them.

2. Getting information about the users, their activities, and their locational and spatial needs as well as their environmental impact on others, about the suitability and capacity of the land supply, both developed and underdeveloped, and about the land use guidance systems.

3.Analyzing the gaps, discrepancies and in congruencies between user needs and the land supply, and the conflicts between different land users.

4. Making schemes and decisions, and devising administrative structures and procedures that match user needs to land supply and resolve the conflicts between different land used.

5. Implementing the scheme or decision through control-oriented and action-oriented measures, and constantly monitoring and evaluating the situation.' (Leung, H. L. 1944, page 26)

The word 'design' is used every day and given quite specific and different meanings by particular groups of people, also because it can refer either to the end product or to the process. But designing or design-like tasks is not only a highly professional activity, but can also be an everyday activity that we all do. We design our rooms, decide how to arrange thing on shelves or in storage systems and we design our own appearance every morning. But since they are not professional tasks we do not label these tasks with the word 'designing'. Simply said, a person who is professionally designing can be called a designer. Professional designers are architects, fashion designers and engineers. Architecture is the most commonly known professional job in designing. (Lawson, B. 2005)

Architectural designing varies between iterative top-down and bottom-up processes. But traditionally, city designing used to be considered a top-down act. It is performed externally and imposed onto a given space. There are two approaches, one responds to the questions of a defined territory by the beliefs of a designer or a team of designers at that given moment or a design as an evolving organization in time and space.

What is important in a designing process, as well as a planning process, is that the developments rely on interactions. Urbanism is the profession in which interaction is inevitable, be it negotiations, collaboration between different parties, conflict solving, lobbying etc between players. This is in contrast with competitions where participants strategically are obliged to oppose each other.

Designs know multilevel of representations. Pahl and Beitz (1996) gave the following active ways: conceptualizing, embodying, detailing, computing. The implications of this are discussed for computer supported collaborative design, and how interaction structures can be designed to support design collaboration. Increasingly remote collaborative design is being supported by Internet-enabled communication tools. One example of this is Flash Meeting developed on a recent European project.

When collaboration is only considered within the design department, the following factors will become more and more relevant: designers and their geographical locations, designers and their skills, components and the skills necessary to design them, components and the designers authorized to change them, designers able to collaborate with other designers, designers liking to collaborate with other Designers' (Johnson, J. 2005)

An urbanist focuses on evaluating and formulating strategic and sustainable projects, developing and comparing planning instruments, strategies, design and history. These main concerns also indicate that both planning and designing have to go together and come as one.

Appreciating diversity and recognizing differences are key elements in this conception, requiring collective action to be informed by principles of tolerance and respect.

3 Collaborative Planning and Design: What is it? Why should it be done? How should it be done?

Planning has to stake out and defend boundaries and at the same time to foster the celebration of difference. In the 1980s in Britain, there was a concern of developing a pluralist understanding of people's needs, values, and ways of experiencing oppression. Appreciating diversity and recognizing differences are key elements in this conception, requiring collective action to be informed by principles of tolerance and respect. There is not one route to progress or one form of reasoning but many. Appelstrand talks about participation as thus: Participation is about finding consensus in diversity, representing immense diversity with widely varying goals, reflecting a normative shift toward multiple-use values. (Appelstrand, M. 2001)

Collaboration is important where systems are deemed to be complex. In such systems, it becomes hard to intervene singularly. Collaboration is important in this field as society is deemed to be a complex system, which requires more than one expert to solve its problems. There is no proper definition for a complex system. But there are certain widely accepted characteristics of complex systems like unpredictability over long periods of time. Chaotic systems are very sensitive to initial conditions while path dependent systems depend on their particular history. These systems may have subsystems that co-evolve, or co-evolve themselves with their environment and at times have new order emerge from the existing systems. Systems in the scientific world can normally be represented by numerical equations.

But when the system dynamics have external restrictions like network connectivity or 'autonomous agent interactions', the behavior of the system depend on many discrete levels and the whole can have properties not possessed by their parts and thus it becomes hard to be represented by numerical equations. In planning and design, society and the city they inhabit are the concerned systems and by the above features and dynamics of a complex system, we can say that our concerned systems are in itself a complex artificial system. Thus working for such a complex system becomes a complex process. But with collaboration, the seemingly complex process becomes

less complex as time progresses.

In collaboration, the participants or the actors can be roughly divided to two - skilled and unskilled. Professionals like planners, engineers, scientists, designers, policy makers, developers et cetera fall under skilled while the general public comes under unskilled participants. The collaboration between these skilled and unskilled participants are done for different purposes and done in different ways. The different types of collaborations can be broadly classified as financial collaboration, technical collaboration, public participation, collaboration for project management et cetera. All these collaborations are for the benefit of the project. The resources with which each stakeholder starts a project starts diminishing as time progresses. This is mainly attributed to lack of collaboration. Because of the mounting international competition and constrained government budgets, project managers are constantly asked to find innovative ways to achieve better results. For this it becomes necessary for project managers to collaborate with professionals and stakeholders and innovate as a team. Thus there is a need for a trans-disciplinary approach here. (Demers, C., Thibert, J., Mup, B. A. 2008)

Where different people and entities are concerned, conflicts are sure to rise at some point of time, if they are not in the process already. [...] With collaborative planning and design, these conflicts can be handled at the planning stage and not be had in the future between different stakeholders.

Where different people and entities are concerned, conflicts are sure to rise at some point of time, if they are not in the process already. If not at the planning stage, it would arise at a later stage during the execution or the final stage where it becomes open to the public.. With collaborative planning and design, these conflicts can be handled at the planning stage and not be had in the future between different stakeholders. In the process, it also helps in achieving a reasonable balance between the conflicting interests. In addition to avoiding conflicts, participatory approaches can predict the impact of proposed actions like reactions and concerns. The authorities can also learn new ideas and alternatives to proposed plans and actions and induce local expertise. If people directly or indirectly affected by a policy, a program or a plan are not involved in the process, there is a greater risk of the implementation being contested or flouted. If the vox populi is heard with respect and some thought is given, then the people would respect the solutions made by the professionals. (Appelstrand, M. 2001)

Most urban projects are stalled due to lack of financial resources. The stakeholders start the project with capital and enthusiasm. In most cases, these resources start dwindling and result in the failure of the project. The main factor for this is the lack of collaboration between stakeholders and participant organizations. 'For instance, a lack of collaboration between the work provider, the project manager, the engineers and architects, and the general contractor can result in the repetition of tasks by different people, time delays in the production of plans and specifications, cost overruns and the general feeling that stakeholders work for themselves, to their own benefit, and not to the benefit of the project.' Sometimes in the course of the project, there can be unexpected difficulties or need for new information. To overcome this for the smooth execution of the project, the project manager has to collaborate with other participants to come up with a solution. Thus 'collaboration and innovation, whether technological, methodological, or organizational, are integral to problem solving'. (Demers, C., Thibert, J., Mup, B. A. 2008)

Urbanism has multiple benefits from collaboration between planning and design. There are several important benefits when cooperation between these two disciplines is done successfully by good communication, sharing the same main goals, having beneficial discussions and positive developments. Thus collaborative design also becomes a complex process and often calls for a design team to work on it. 'This design team with designers and planners should be able to work together to create innovative value-added designs. Some designers complement each other and work well in teams while other designers have the exact opposite effect making teamwork difficult. Most designers have a degree of autonomy in their work and when in a group of designers, they can be seen as an 'autonomous agents in multi-agent systems'. (Johnson, J. 2005)

In a project, the most often worrying variables for different parties are costs and risks. But in collaboration, they become shared costs and shared risks along with shared target goals. Shared costs mean low costs and shared risks means less risks and shared responsibilities. Another variable worth mentioning is market position and specialization. Both parties need to defend their position in the market to maintain success and develop their specialization to maintain their good position in the market. Another variable is innovation, since urbanists, designers and planners want to decrease their dependence on each other. They want to be innovative enough to stay strong on their own. This goal implies the variables agility and flexibility. By increasing agility and flexibility, the innovation of that particular party automatically grows. An additional variable is regulation in the process and on the expectations of certain participants. The target goal is to establish proper regulations with one another. Making agreements and arrangements is part of the cooperation process. The last cooperation variable is social causes. The shared target goal in this is to share the social responsibility. (Luis, M. Camarinha-Matos, Abreu, A.)

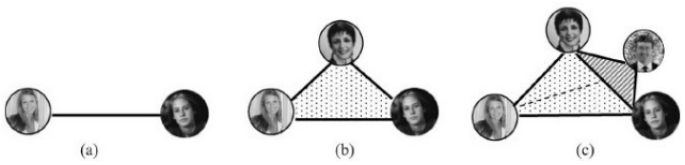
The importance of all the shared target goals can be expressed in money, time and reaching the common goals including tapping the maximum potential of the environment for use and enjoyment of the community and users. The most common shared challenge and responsibility is to realize the design with the highest possible quality standards for the lowest costs. When the outcomes are at its maximum, and can be considered as the best possible outcome of the whole process and of the

participants, the collaboration can be called a successful one. This was also proven by different role-plays and academic research and experiments.

'An experiment is described which supports the proposition that collaborative work can benefit problem-solving performance.' (Wilson, J. D., Hoskin, N., Nosek, T.) (is the experiment in there in the source?)

From the beginning, collaboration has to be organized. During the first meeting of every phase, the collaboration should be clarified explicitly. All main actors should be present. These meetings require time, structure and composure. The emphasis of the structure should be on phasing, quality, planning, information, organization, finance and risks. The emphasis of participants should be on, goals, motivation, interests, goals, roles and commitment. Debating on collaboration, the emphasis should be on, communication, expectations, teambuilding, agreements and decision-making.

'The progressive challenge is to find ways of acknowledging different ways of experiencing and understanding while seeking to "make sense together."' (Healey, P. 2003) This leads us to the third and last question of how it should be done, we should go into details of communication between these actors. 'Communication among designers, scientists and local actors is often complicated because they use terms that can have different meanings in different disciplines or institutions. Expressing an idea in such a context means exposing yourself to a critique that can be very unfamiliar, where the value of the speaker's intention is not understood and acknowledged. This can lead to frustrations and doubts, and, not rarely, participants might wish to retire from such cooperation. Effective cooperation presupposes a rough understanding of the partner's values.' (Muller, D. B., Tjallingii, S. P. et al. 2005) This means that an interactive process between planning and designers involves respectful discussions. Within the argumentation of these communicative processes, all dimensions of knowledge, understanding, appreciating, experiencing, and judging may be brought into the plan.



In such a system of more than two designers, it becomes important to not have binary networks. Binary networks, which occur between just two people, is not strong enough for a healthy collaboration. The diagrams above can show this. Fig: (Johnson, J. 2005)

A more networked relation will help in better conveying of ideas. Relationships in collaboration can also be explained by simplices. The actors can be grouped as simplices. Not all actors would come in contact with each other. Actors who have a similar stake in the process or whose collaboration is of utmost importance can be grouped together in one simplice. The theory is that 'simplices can share different numbers of vertices, and that the more vertices they share, the more highly connected they are.' By vertices, we mean actors. Thus even if one actor is present only in two simplices, he could get his point across to the third simplice by a similar actor who is there in the second and third simplice.

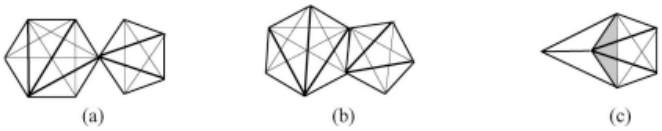


Fig: (Johnson, J. 2005) Therefore the more the vertices are, more communicative the collaboration would be. In simple words, more the sub-groups are connected by the actors, better will be the communication and collaboration.

Studies have also showed that if there is a common threat outside the collaboration, like in a competition, the stakeholders stick together to complete the project. The stakeholders feel the same if they know that the project will win them recognition. When one stakeholder is faced with a situation, the other stakeholders are there to motivate and maintain the team.

Another way of looking at collaboration is seeing the stakeholders as partners so that all the stakeholders feel a sense of common purpose. This approach calls for a sharing of concerns and interests rather than confrontation of positions which generally leads to a 'lowest denominator compromise rather than to a solution that is beneficial to all.' Partnering brings in a common perception of the issues, risks and opportunities among the stakeholders rather than having sub-perceptions in the larger single perception. (Demers, C., Thibert, J., Mup, B. A. 2008)

The team of planners and designers work out how to act with respect to shared concerns about how far to go and how to 'manage' environmental change. In a designers team that consist of different parties, a part of the design is based on values. 'Values are shared beliefs on the importance of certain behaviors, institutions and norms (by an individual in relation to society, by a community or by a group). Values can vary enormously among different groups in a given country. However, some governments actively promote specific values. Where can we find values? There is at least religious, political, professional, academic, community, personal, shared and ideological values.' In Urbanism we work with all of these type of values. All of them have the ability to change the plan and design. 'Even if values are not immediately reflected in practice, they are important guidelines to assess whether one is going in the right direction. For example: even if equality is very hard to obtain, a good urban planner and designer will always use equality as a fundamental guideline in his/hers actions and his/her professional practice.

The core values of an organization are, for example: integrity, professionalism, caring, teamwork, and leadership. When values are shared by members of a group, they are ex-

traordinarily important tools for making judgments, assessing probable outcomes of contemplated actions, and choosing among alternatives.'

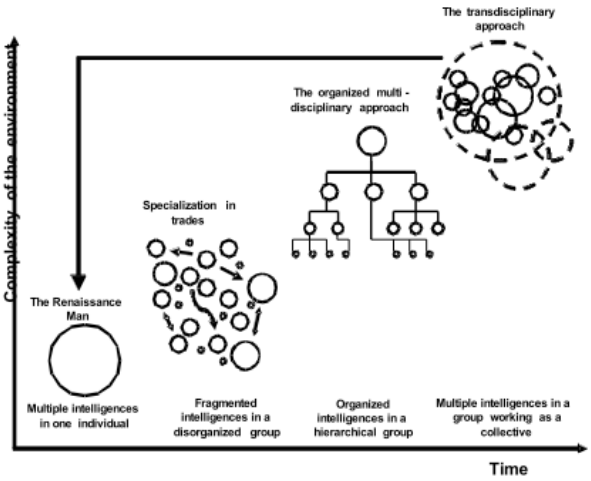
Besides paying attention to values, also attention for different qualities is required. For example: alertness, availability, creativity, humility, dependability, initiative, flexibility, gentleness, responsibility, security and tolerance.

These values and qualities are shared between different parties in different ways of communication. In a team, debating, meeting and talking are main ways of communicating. In design teams, collaboration is also many times done through drawings and sketches. Internet also provides a lot of ways to communicate. Digital (group) meetings, and email give multiple opportunities to exchange information. 'Integration is particularly strengthened by involving citizens and scientists in the design process (van Eijk et al., 2000), and by involving citizens and designers in certain stages of the scientific modelling and scenario-building process.' (Muller, D. B., Tjallingii, S. P. et al. 2005)

There are multiple reasons why collaboration does not work well in the way that collaboration should be working. The cause is most of the times that own interests are premised. This has as the consequence that there is not enough trust between client and contractor. This leads to offensive and defensive behavior and different parties abdicate risks. To turn this attitude around and to solve this problem and seek for a successful collaboration, the client and contractor have to find the shared interests instead of the individual interests.

Collaboration therefore means good organization and a clear understanding on expectations. Pitfalls during collaboration could be that agreements are made but not held during the process. Participants forget about agreed appointments. Another common pitfall is that participants talk about other participants instead of with other participants. This is tempting when the collaboration does not work well until a certain point. One of the most common source of irritations among participants is when they make assumptions. The most crucial pitfall for a design team to make is that they forget the desires of the end users. A clear example of a design project in which the team forgot about the users is Potsdamer Platz in Berlin. This area should have been turned into a lively space, instead of that the flat buildings are empty. The mayor of Berlin calls this area 'Poor, but sexy." (mayor Klaus Wowereit, 2004). The sexy part is the presence of the brands Sony, Universal, MTV and several fashion designers. Overall 'the top-down, five-year city planning agenda for this square has failed.' (Copeland, D. 2004)

In the practical field, collaboration is done effectively through project managers. A project management team brings all the participants together for the smooth execution of the project. A successful collaboration calls for a multidisciplinary approach. There has to be a sharing of technical knowledge, expertise, exchange of ideas, and the participation of all professionals and stakeholders for it to be truly a success. Figure: (Demers, C., Thibert, J., Mup, B. A. 2008).



4 Conclusions

'Having a common ambitious mission to reach more than being the winner forms a firm ground for the collaboration of game participants.' (Tan, E. & Portugali 2012)

'Participation must, to have a democratic foundation, have a decisive influence on the outcomes of the decision-making process.' (Appelstrand, M. 2001)

People from all layers of society plan and design on a daily basis. To make a balanced well thought-out plan, it is desirable that professional planning and designing is also done by people from all layers of society. This way you maximize the potential of the environment to create a plan that serves all. Since every plan is made to create a better environment for all its citizens, the planners have to be conscious about all the human activity of its users. This requires investigation to the nature of a city, stage of developments, its context, relatively to its history and mainly on its future. To balance all the values from the stakeholders and participants, collaboration is crucial. There has to be a constant concern with the interaction between planning procedures and outcomes.

Interactive process between planning and designers involves respectful discussions between stakeholders. Within the argumentation of these communicative processes, all dimensions of knowledge, understanding, appreciating, experiencing, and judging may be brought into the plan.

This can be done by arranging multiple set of meetings concerning the process and the outcomes. Meeting and human interactions might be the most beneficial way of how to achieve a positive outcome. These meeting can be arranged between different parties and in different places. Meetings with multiple participants can also be arranged over the internet. The possibilities are opened up and the facilities improved. The internet is a massive self-organized complex system, but can simplify and easily support our need and ways to communicate. Another way of how the decision-making process can be envisioned is through sketches and drawings. This can be in 2D or in 3D. Many architects use this way to explain their design. Another

way of how, is through writing. For example the document of terms of requirements is an explanation of the borders of a plan or design, explained only through writing.

The biggest benefit is that a complex system of the process of designing becomes tangible and less complex. Different aspects, values and qualities are discussed and argued and agreed upon. This avoids conflicts and makes the final result understandable and acceptable for every participant. The decisions made, contain the best interest for the participants. What could be improved is not to overlook the users of the design and the city. The users are the most important participants.

The most heard critique for collaborative planning and design is that it is time-consuming, obstructive and costly. But all democratic enterprises are often costly and time-consuming. Even though during the planning and design stage, the process might seem time-consuming, obstructive and costly, in reality it fosters 'economic efficiency, by promoting rational and shorter processes through (in fact) less obstruction and mutual understanding.' Thus by the end of the whole process of planning, designing and executing, the importance of the shared target goals can still be expressed in savings with respect to finance, time, innovation and of course, reaching the shared interests and goals.

Students from different departments within the faculty of Architecture and even outside the faculty do not get enough opportunities to practice collaboration, while designing their projects. In many cases, academics are comfortable designing in quite an individual way. Practicing collaboration would only improve the design results, not only in the academic, but also in the professional life. Therefore collaboration should be more important within a design project and to stimulate effective collaboration, it might even be graded separately.

In the professional career, collaboration between different parties is more common because it is essential, indispensable and inevitable. Without collaboration, the design will most likely fail. To reflect the importance of collaboration, it must get a greater role in the TU Delft courses, not only Urbanism, but also other important streams like Architecture, Landscape, Real Estate and Housing, Policy Planning and Engineering. The normal studio projects can be done together with the other faculties in the TU. This would shape the students to work in a collaborative professional field since communication between the various actors is the key to an effective collaboration.

References

APPELSTRAND, M. 2001. "Public Participation and Collaboration". Background paper. Contribution to COST-Action E19. Lund University, Institute of Sociology of Law, Sweden.

ATAOV, A. HALILOGLU KAHRAMAN, E. 2009. "Constructing collaborative processes through experiential learning: Participatory planning in Kaymakli, Turkey." Habitat International, Elsevier.

BOUDEWIJN E.C., BROEKHUIZEN R. P. V. 2007. "Bouwen is teamwork!" PSI Bouw, Regieraad Bouw, Quantes, Rijswijk.

DEMERS, C., THIBERT, J., MUP, B. A. 2008. "Trans-disciplinary management and partnering to better collaborate and innovate in a global context." Building abroad, Montreal.

FAINSTEIN, S. S. 2005 "Planning Theory and the City." Journal of Planning Education and Research. 25:121

HEALEY, P. 2003. "The communicative turn in planning theory and its implications for spatial strategy formation. In: Cambell, S. & Fainstein, S. (eds.) Readings in Planning Theory. Oxford: Blackwell.

JOHNSON, J. 2005. "Complexity science in collaborative design. "CoDesign 1(4):223-242.

LAWSON, B. 2005 "How Designers Think. The design process demystified." 4th edition. Architectural Press Elsevier, Oxford.

LEUNG, H. L. 1944. "Land use planning Made Plain." 2nd edition (2003). University of Toronto Press Incorporated.

LUIS, M. CAMARINHA-MATOS, ABREU, A. (year). "A contribution to understand collaboration benefits." University of Lisbon, Portugal.

MULLER, D. B., TJALLINGII, S. P. et al 2005. "A Transdisciplinary Learning Approach to Foster Convergence of Design, SCience and Deliberation in Urban and Regional Planning." Systems Research and Behavior Science 22:193-208

OKAN, M., CIGDEM, B., ASIM, M. 2012. "A new approach for participative urban design: An urban design study of Cumhuriyet urban square in Yozgat Turkey." Journal of Geography and Regional Planning Vol. 5(5). pp. 122-131. Departments of Regional Planning, Architecture and Engineering and Architecture, Turkey.

STELLINGWERF, M. ed. 2001. "Accolade, Architecture, Collaboration, Design." University of Delft, Netherlands.

TAN, E. & PORTUGALI J.2012. The responsive city design game. Complexity Theories of Cities have come of Age. J. Portugali, E. Tan, V.J. Meyer and Stolk, E. H. Heidelberg, Springer.

WILSON, J. D., HOSKIN, N., NOSEK, T. (year). "The benefits of Collaboration for Student Programmers." Computer and Information Sciences Department Temple University, Philadelphia, USA.

Design as tool

Definitions and perspectives through the academic experience

I. Dimitrakou
(Greece)

E. Zioga
(Greece)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April, 2012

Abstract -This paper examines the role and the contribution of design as a tool in the design process. Firstly, it analyzes and defines the term design, its boundaries and the importance of design theory. In section two, it explores the aim and the objectives of design and planning, and defines the reason why designers use it. Afterwards, the paper discusses how science and technology transformed the meaning of design during time and it presents parametric design as a contemporary interpretation of the notion design as a tool. In the last part, the paper focuses in the academic environment (and the structure of studies) of the department of Urbanism of the Faculty of Architecture of the TU Delft. More precisely, it presents the academic experiences and the role of design in the Research and Design (R&D) Studios organized at TU Delft through the perspective (viewpoint) of Master's Students on Urbanism. The paper concludes with remarks and proposals regarding the structure of studies and the general academic approach provided from TU Delft.

Keywords – planning and design, tool, urbanism, academic experience, design process

1 Introduction

Investigating the content of the term design and analyzing different approaches related to this term, constitutes one of the most important procedures during the academic or professional formation. Especially for Urbanism, the understanding of content of design could help urban designers and planners to realize their activity in depth, expand its boundaries and rethink the fundamental questions of this discipline. The aim of this paper is to examine how design can be used as tool in the academic and the professional activity of "Urbanists".

Having realised through the discussion during the course Research and Design Methodology for Urbanism, that the meaning of design as a tool is often confusing for Urbanism students, this paper presents different approaches of how design can be used as a tool and defines the reason why is important for designers. Through bibliographic research and having as reference our experiences during our studies, we tried to explore the content of design and the contemporary facet of this term. One of the main objectives of this paper, apart from comprehending and defining the term design in theory, is to understand how these theoretical approaches are reflected in the academic procedure at the department of Urbanism of the Faculty of Architecture of the TUDelft. Finally, within the examined framework, which are the incompatibilities between practice and theory and which are the things could be changed.

2 Design as a tool

2.1 Design: Definitions and Importance for designers

"Design is a conscious and intuitive effort to impose meaningful order. [...] Design is both the underlying matrix of order and the tool that creates it." Victor Papanek, 1971

"A bee puts to shame many an architect in the construction of her cells but what distinguishes the worst of architects from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality. At the end of every labour process we get a result that already existed in the imagination of the labourer at its beginning."

Karl Marx, Das Capital

2.1.1 Definitions of design

Design and definitions about design, has been thoroughly explored by several disciplines. Architects, planners, theoreticians and philosophers as well investigated through a long discourse and stated/ cited descriptions/ definitions about the term "design". The meaning of design has been perceived differently by multiple groups of people during the course of history. Thus, the definitions, either abstract-conceptual- immaterial or precise -pragmatic- material, are multiple. According to Lawson, design could be referring at a process or a product a final result but generally it could be seen as an activity applied by designers in various domains (Lawson, 2006). In the same direction, Mau claims that design is no longer associated with objects and appearances, but it is understood as the human capacity to plan and produce desired outcomes (Mau, 2007). Along these lines, it could be observed that the definitions and the framework of the term design tent to become wider, including more notions and attaching in the same time to multiple scientific or not disciplines.

Design could constitute the means through which designers represent, express, explain conclude their concepts ideas. Furthermore, design could be directly the message of the designing activity, the result of a procedure, the image or the sign that, apart from communicating concepts, reflects intentions, prejudices and gives an overview of a specific context.

Design could constitute the means through which designers represent, express, explain conclude their concepts ideas. Furthermore, design could be directly the message of the designing activity, the result of a procedure, the image or the sign that, apart from communicating concepts, reflects intentions, prejudices and gives an overview of a specific context. According to Gänshirt, during the designing process, design becomes a tool, as no longer serves the communication but above all the development of ideas (Gänshirt, 2007). It is worth saying that both facets of the term design could be summarized in a mental non-linear process, in which design plays the role of the medium or the message, that is used as a tool for providing solutions and/or asking questions, stating ideas, expressing meanings.

Therefore, it has to be mentioned that design, independently from the point of view examined, is always related to a problem, a relevant question concerning human life. More precisely, design, could be considered as problem-solving tool or a reflection procedure through which a rational problem is posed, decomposed and redefined and subsequently answers are provided, evolved and evaluated. It could be claimed that design could constitute a means through which the human issues/environments are organized, managed, reformulated and evolved.

To conclude, design has multiple definitions and interpretations depending to the point of view that it is examined, remaining in the same time a tool that shapes our actions and our thinking related to a problem or a generic question.

2.1.2 Boundaries of design

One of the main questions to be examined is which are the boundaries of design for the designers and finally, what it could be achieved through this procedure. As it is mentioned above, design is attached to a problem. However, it is the historic and generally the cultural context that defines firstly if something constitutes a problem, if it could be solved by de-

signing and finally if it matters to be solved. Furthermore, specific human demands, scale, complexity of a given problem are some of the factors that precise the limits of design.

For instance, although urbanity is an ancient phenomenon, urban design and urbanism formed as disciplines only in the 19th century. More specifically, as examining urban development before the Industrial Revolution, it could be said that the smaller scale and the lower complexity of ancient or medieval cities, the limited demands of people and the cultural context, but mainly matters of social hierarchy and authority in the city, did not impose the creation of designed/ planned urban agglomerations. Nevertheless, nowadays estimating that the 50% of the world's population would be living in urban areas until 2020[1], urban design/planning combined with a multitude of other fields as economics, sociology, geography etc, becomes a key instrument for managing the rapid urbanization in global scale.

Hence, it could be concluded that the limits and the boundaries of the design and the role of the designer are notions defined and redefined through history according to the socio-cultural structures and demands.

2.1.3 Importance for designers

Examining the meaning of the term design and analyzing different approaches related to this term, it could said that design constitutes one of the most important procedures during the academic or professional formation. More precisely, it could be considered that the procedure of defining and redefining the content of design, informs us about: 1. the aims that design serves (why we design) 2. the means of designing (how we design?) 3. the interpretations/ways of designing according to each context and finally 4. the framework of the specific activity (what kind of issues included in, or influenced by the design process, what is the limit between abstraction and design). It could be claimed that design theory helps designers to understand how practice (the action of designing) could be codified in a set of scientific methods/tools.

Furthermore, the creation of a theoretical / scientific base could help designers to understand in depth their activity and expand its boundaries, to explain and communicate their profession/ discipline and to be able to evaluate the results of each design procedure.

2.2 Design as a tool: setting the aim and the objectives of the design and planning.

2.2.1 Design as a tool but for what?

As it has been analyzed above, design could be a tool for designers. Nevertheless, in order to understand the profoundly the term "design", it has to be defined the reason why designers use it. If design is a tool then which is the aim of this mechanism and what are the results achieved by applying it? Is design a way to ask questions or it is used only for providing solutions?

A possible answer to this question could be that design is oriented to give solutions to defined problems. As it has been mentioned above, in this case, designers indentify a need or a problem and they try to solve it by gathering data, comparing possibilities until an acceptable solution is found. This process is oriented to a final product that will be one solution. Although this procedure conducts into "solutions", it has to be clarified that in fact this is a non-linear and never-ending process through which every result could be re-evaluated and be rejected and re-developed. Schön described the process of solving spatial problems as experimental, where the action that is undertaken is both the hypothesis to be tested and the proposed solution. (Schön, 1985).

Architects usually follow this process, since architecture is by definition related with the creation of a pragmatic result (space/building). In practice, these results are determined by specific spatial, functional and financial parameters defined by clients' demands. Therefore, designers should generate outcomes that will be in direct relevance to these predefined demands. However, in the field of urban design and planning due to augmented complexity (socio/spatial parameters, conflicting interests), design process could be converted into a tool which apart from solving problems, contributes to understand and define an issue and the related questions. For instance, by using design, immaterial as well spatial characteristics of the urban environment could be understood, analyzed, combined and be translated to a plan. Furthermore, the results could be used and re-combined in order to form a solution.

In practice, urban designers and planners have to generate outcomes that answer to problems concerning our living environment. In that case, design probably has a twofold role; it starts as tool to ask questions in order to define the problem and it continues as the mean to give the right solutions. However, focusing on the academic environment, by exploring ideas or questions, design could be used as a tool for research that contributes to knowledge and not necessarily to practical outcomes. In this case, design is applied as a trial-error procedure upon a hypothesis made. Main aim of this is to test the validity of the scientific question, to examine its boundaries, to propose possible answers, but mainly to trigger the discussion upon the specific topic.

For instance, it could be considered that within the academic context of TU Delft, T?F studio could potentially constitute an expression of the above mentioned notion Research-by-design. On the specific studio, a hypothetical scenario concerning the future of the cities is been made. By focusing on specific aspects of everyday life (ex. food production and supply) and by excluding parameters related to urban context (ex. socio-economic factors) a model is proposed. The aim is to research the boundaries and test the extremes of a spe-

1 According to UN report of 2007 concerning world urbanization prospects, although the in the more developed regions the proportion urban was already 53 per cent in 1950, in less developed regions this percent will likely be reached around 2019.

cific topic by limiting, in the same time, a level of complexity resulting from the context. More precisely, T?F is not about giving answers for existing urban realities but it focus more on the possible urban directions by proposing "new urban realities". In general, T?F is trying to use design as a tool for reaching, triggering or proroguing urban discourse. Nonetheless, the relevance of this approach and the validity of the hypothesis made constitute a field for further discussion.

To conclude, design constitutes by definition a tool. However the way that it could be used differs whichever is the context, which the users and what the aims.

2.2.2 Tool for expressing ideas or creating space?

"When people want to say something, they use words but when you are a designer you can express those words by designing"

Unknown

"Design is the human power to imagining something that did not exist before" Harvey, 1950

Undoubtedly, design constitutes a way of communicating ideas. Thus, a "good designer" could be characterized by his ability to express his ideas and generally his narrative through design. In the same time, urban and architectural ideas can be also communicated through many others means such as speaking/ writing (language) or constructing (three-dimensional space). Therefore, it is worth wondering which is the objective and which are the conceptual (communicating ideas) and the pragmatic goals of the design (creating space).

Focusing on the design process, as it has been analyzed before, it starts by defining a need or a problem. In a second phase, designers begin thinking critically on this problem, expressing their first thoughts and trying to visualize them through sketches /drawings/models. Therefore, design is used as a tool to structure a questioning and a speculation towards a specific issue and represent it. It could be claimed that, this procedure would be the starting point for developing new design ideas. In the next stage of the design process, designers need to turn theory into practice and start to transform the design ideas to space, in order to come up with a result related to the first question. According to Gänshirt throughout the designing process, a form of an object is been devised, without having the actual object in reality (Gänshirt, 2007)[2]. Thus, design could be a way of structuring a future vision of reality as a concrete, spatial answer to actual or future demands of society staying in the same time a means of communication.

Regarding the communicative part of design, it is commonplace that design is considered as a visual tool, which serves the formation and the representation of concepts. However, we could claim that design is related more to the interpretation of these immaterial thoughts into space and their communication, than into their plain representation. In particular, apart for envisioning a concept, designers have to communicate their ideas through gestures, through a visual language able to describe the purposes, the objectives, the meanings and the sub-meanings. The main goal is to formulate a relevant statement understandable from different groups (professionals, stakeholders, people). Furthermore, design could be the sign or the image that reflects thoughts and point of views concerning a specific topic. Besides, it could carry meanings and reflect social and cultural constructions being simultaneously a statement that could be interpreted in multiple ways.

It goes without saying that design, apart from solving a pragmatic, rational problem, serves the formation of concepts-ideas and the communication of these ideas to several parties. Therefore, besides being the answer or the message, design could play the role of the medium throughout the answer is communicated to the different stakeholders.

2.2.3 Design as a tool but for whom?

"Design is the human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes." Richard Buchanan, 2001

In the above chapter it has been analyzed how design is used as a tool for designers and which are the results that can be achieved by applying it. However, in order to understand in depth the term, it has to be defined which are the groups applying or using that tool and to whom design is addressing on.

It is often argued that the boundaries of the profession of architects and urban designers are not precise. In fact, who is able to design and which are the skills that characterize him, is an issue defined according to the socio-cultural context.

For instance, designers during Renaissance used to embody the ideal of "Homo Universalis". In particular, they developed their skills and their knowledge in several fields, from arts and architecture till physics and philosophy and consequently, they were able to propose solutions and make statements for a wide range of issues. It is worth mentioning that designers of that period did not have the formation though a systematic academic system, but they aimed in the acquisition of knowledge though multi-disciplinary training. Nevertheless, during the Enlightment and Industrial Revolution period, when the bases of academic education were set, the boundaries between different disciplines started to be more concrete. During 20th century, the sharp technology transformations and the shifts on the socio-economical system, have imposed the further fragmentation of labour and simultaneously the expanded scientific specialization. However, nowadays, apart from the extreme specialization, a counterforce situation is taking place. Within the postmodern context, and the rise of individualization and democratization of design, a do-it-yourself culture is revealing. Thus, everybody could design or to put it in another way everybody could participate in the design process, express

2 Gänshirt C., 2007. *Tools for ideas: an introduction to architectural design*. 1st ed. Berlin: Birkhauser. p.57

himself though design and evaluate the design results.

It is obvious that recently the limits of the term "designer" are shifting, either becoming more restricted, specialized or wider and fluid. Thus, defining who is skilled or qualified to use design as a tool, becomes more ambiguous. Nevertheless, design, independently from who is using or applying it, has an impact on individuals, social groups, and generally interested parties. As it has been analyzed above, design constitutes a tool for designers but it is worth asking who are the groups influenced by this tool and respectively how different groups influence design decisions.

Focusing on urbanism, it could be said, that design plays the role of mediator between different competitive interests related to the cities. Hence, design is used as tool in order to analyze different demands and problems, evaluate opportunities and give a balanced and result, negotiable from conflicting interests.

Although design is the tool that designers use in order to propose, to express and communicate their personal point of view concerning a spatial issue, it could be claimed that design does not constitute the result of an individual decision. More precisely, designers by taking into consideration multiple demands and by introducing them as parameters in the design procedure, they start involving somehow all stakeholders. However, the crucial point for the designers is to define which is the power of its party, what kind of qualities could be introduced in the design by them, what kind of balance is achieved. Finally, what level of freedom and participation during the design process is relevant for the final result?

Although design is the tool that designers use in order to propose, to express and communicate their personal point of view concerning a spatial issue, it could be claimed that design does not constitute the result of an individual decision.

To conclude, who is designing and for whom, is an issue that has multiple answers. However, it is the designer who defines the flexibility and the level of participation, as well as the final product.

2.3 Design as a tool shifting in time: Science and Technology as catalysts

"This technology provides a way for me to get closer to the craft. In the past, there were many layers between my rough sketch and the final building, and the feeling of the design could get lost before it reached the craftsman. It feels like I've been speaking a foreign language, and now, all of a sudden, the craftsman understands me. In this case, the computer is not dehumanizing; it's an interpreter." Frank Gehry, s.d.

2.3.1 Parametric design: a contemporary interpretation of the notion "design as a tool"

The notion "design as a tool" has been a notion evolved and transformed in time. It is obvious that scientific achievements and technology innovations have been important catalysts that influenced the way that designers perceive and use the design as a tool for providing spatial solutions.

Computers has been a part of Urbanist profession for almost half a century, but the last decades have become necessary for designers since permit them to do things not previously possible. However, what has changed is that computers and digitalization have transformed the way that we understand the process of designing. It could be said that nowadays computer have become a tool that instead of solving problems, it is used to support design decisions.

As it has been analyzed above, design is generally used as a tool to solving problems and providing solutions. However the process, which is followed by designers, could be characterized as a slow process that leads to one design result. Digital design has opened new possibilities. Searching through a range of design possibilities is a slow and laborious process due to all the variables that designer has to taking in to consideration. Through digital design, designers can faster explore a wider range of solutions before develop a single final product. Thus, it could be said that digitalization have undoubtedly increased the speed and the efficiency of the overall design process.

As stated by Gänshirt digital design could be considered as verbal and visual tool simultaneously. In particular, all data related to a spatial problem or a general design question could be described and quantified in numbers, texts codes and organized on a language. Thus, digitalization means that all design content is reshaped digitally and translated into figures and mathematical equations. This verbal translation of spatial data, processed through an algorithm, could produce multiple visual results related to the first problem stated. These multiple results could be evaluated and re-transformed by changing the parameters and by re-editing the first algorithm. Thus, it could be said, that digital design, remains a non-linear, trial/error process with the only difference that it could manage augmented amount of data and produce multiple and complex variations.

Design constitute a tool for solving complexity issues but on the other hand design could be the means for creating complexity, for adding diversity that could serve or satisfy multiple wishes and demands. Nowadays, computer-aid design constitute one of the tools that designers use in order to manage, organize and express in the same time the augmented complexity that characterize the contemporary societies. Besides, digital is not related only with the representation of the concept but mainly with design process. It could be said that algorithmic design is a tool for representing and transforming ideas into design, staying in the same time a design process through

which spatial issues are solved.

Although digital design has expanded the limits of design and the way that design is perceived, it is worth asking if this new means could answer in fundamental issues of architecture and urbanism and how the results proposed could be finally evaluated. In particular, due to the experimental nature of this approach and its constantly evolving character, the design results could be sidetracked from the main objectives and could start being part of a design trend. Therefore, it has to be defined that design, digital or not, has to respond to relevant and contemporary questions, trigger thoughts and influence positively societies and individuals, independently from the means used.

To conclude, digital design has undergone an important evolution in the recent years and become a new medium of designers. Therefore, it is necessary to ask questions of how it has affected the nature of design and how computer aid design could be a tool for expanding the limits and the possibilities of architecture and urbanism. Can digital design be applied in architecture and urbanism in the same way? Can designers manage the non-spatial parameters and multi- disciplinary issues related to urbanism, through an algorithmic procedure? Can digital design overlap its self-referential character and be useful tool for triggering new concepts about design processes and generally about space human life and society?

2.4 Design as tool: TU Delft experience and reccomendations

The main aim of the following chapter is to understand how the above-mentioned theoretical approaches are reflected in the academic procedure at the department of Urbanism of the Faculty of Architecture of the TUDelft. In particular, we will try to investigate if the definition, the importance, the objectives, as well the contemporary tendencies about design are introduced systematically in the theoretical and applied design courses of Urbanism in TUDelft.

TUDelft, as being a technical university is more focused on the practical approach of design, fact that is evident through the structure of studies. More precisely, from the first year of Master in Urbanism students are following four R&D (Research & Design) studios, which constitute the main body of their studies. Although these courses are supporting by theoretical lectures, we could claim through our personal experiences, that design is the main question of studies.

The limited time framework of each studio (approximately two months), in combination with the general approach provided by the tutors, student are forced to take swiftly decisions and to come up with design solutions. In that point, it is worth wondering, if "solutions" is the main objective of design. As it is mentioned above, design especially within the academic context, is a tool for expressing ideas, triggering thoughts, investigating perspectives. Hence, the principle "Research by Design" is not that evident in the structure of R&D studios at TUDelft.

In addition to this, as it has been cited before, designers have to take into account a set of different groups that could be involved in the design procedure.

Is design serving authorities and the demands of powerful interest or the objective is to find the balance between majorities and minorities? Within an academic environment, is it necessary a specific direction to be given or students and researchers are free to find out their own approach concerning the conflicting interests? According to our experiences, though TU Delft promotes freedom of choice, the design result is evaluated according to its economy efficiency. Undoubtedly, as "Urbanist" we have to take into consideration market forces and demands; however, we strongly believe that an academic environment could give the possibility to other voices to be heard.

Is the freedom of inquiring a virtue promoted in universities or the limitation of practice defines the boundaries of our discipline?

Technology and new means of representation influence design and is necessary these parameters to be reflected in every phase of Urbanists' education. TU Delft as one of the most innovative universities in the field of technology foster the extensive use of digital media during the design process. Therefore, through our point of view, the results of the R&D studios on Urbanism focus more on the production of images and less in alternatives means of representation. Probably the restricted project time, in combination with the amount of data elaborated, limits the possibilities of exploring new media.

To conclude, it could be said, that time and the solution-based approach constrain from thinking about all the extensions of the notion design as a tool.

3 Conclusions

The aim of this paper was to discuss on the topic design as a tool but mainly was about rethinking the role of designing through our education in the Master of Urbanism in the Faculty of Architecture in TU Delft. An overview of theoretical approaches concerning design and its perspectives led us to conclusion that design could be used as a tool in different ways within the design process, could be applied from different disciplines and could be serve several interests. However, the point is to understand which is our role as "Urbanists" in this framework and in what level an academic environment could educates us on these principles. Which is the level of freedom in approaches, choices, decisions, should be provided in a Master of Science in Urbanism. Finally, is the freedom of inquiring a virtue promoted in universities or the limitation of practice defines the boundaries of our discipline?

References

BIGGS, M. and BUCHLER, D. 2008. "Eight Criteria for Practice-based Research in the Creative and Cultural Industries." Art, Design and Communication in Higher Education 7(1): 5-18.

BIGGS, M. and BUCHLER D. 2008. "Architectural Practice and Academic Research." Nordic Journal of Architectural Research. 20 (1), 83-9

GÄNSHIRT C., 2007. Tools for ideas: an introduction to architectural design. 1st ed. Berlin: Birkhauser

LAWSON, B., 2005. How designers think: The Design Process Demystified. 4th ed. Oxford: Elsevier Architectural Press

MARCHAND.A & WALKER,S. 2009.Designing in Design Research: From solving problems to exploring issues. In: MALINS,J., ed. European Academy of Design: Design Connexity,2009 Aberdeen. EAD & Robert Gordoin University.

ROCCO, R. & ROOIJ, R. 2010. Educating the Critical Urban Planner and Designer: A didactical experience in an area of practice. In: INTED, 2010 Valencia. IATED.

SEVALDSON, B. 1999. Research on Digital Design Strategies. In: Useful and Critical, the Position of Research in Design, conference, Helsinki. [internet] Available at:

http://www.birgersevaldson.no/phd/useful.pdf

[Accessed 10 February 2012].

Dissertations

RICHMOND, J., 2005. Customer expectations in the world of electronic banking: a case study of the Bank of Britain. Ph. D. Chelmsford: Anglia Ruskin University

YAKELEY, M., 2000. Digitally Mediated Design: Using Computer Programming to Develop a Personal Design Process. Ph. D. Massachusetts Institute of Technology

Electronic sources

1. http://defining-design.net/learn/definitions explained/ [Accessed 5 February 2012].

Constructive narratives

Language as a design medium in urban practice

Laurien Anne Korst
(The Netherlands)

AR2U090 Methodology for Urbanism

Delft University of Technology, Department of Urbanism

April 2012

Abstract – Language is an inextricable, intangible part of urban practice. The influence of verbal tools on the design (process) and its perception however is often underexposed in current design education. The theme of this paper is the use of language, more precisely its literary counterpart, the written narrative, as a constructive part of the design process.
This paper will try to answer the question: what's the influence of language, more specific: the narrative, as a design medium in the urban practice? The literary research is built up like a frame narrative, a well-known trope. By looking through the exemplary frame of the design project the subject is put into context, also showing the relevance of the question for the design education. The theme will thus be introduced by connecting it to the own experiences with the limitations of visual design media in recent Q3 design course 'Food City'. Thereafter the general discourse on design media is explained, using the extensive research of Christian Gänshirt in "Tools for Ideas" (2007). In that way it is possible to discuss language in respect to other tools. The discussion on language/narrative and a practical implementation is then described more into depth, based on the research on urban Literacy by Klaske Havik. In the last part the essay returns to the Q3 course, by expressing a few concerns and providing recommendations to the education in general. Experience proves that conventional visual design media do not cope with the complete explanation of a design. Especially in the changing society one should look for alternative media to catch the ephemeral aspect of being. In respect to that the narrative could be implemented as an important design medium.

Keywords – design media, visual-verbal tools, language, lived space,time, narrative

1 Introduction

"Il faut cultiver notre jardin." (We must tend our own garden)
End of Candide, (Voltaire, 1759, 30.39-31).

The famous ending of Voltaire's magnum opus is the perfect introduction to this essay. The multi-layered expression shows the power of language and simultaneously outlines the assignment of Food City.
It's been subject to an ongoing philosophical debate what Voltaire meant with his conclusion. The one says it should be read as a philosophical alternative to optimism: improving the world through metaphorical gardening, while the other emphasizes that it prescribes nothing but practical outlook: passive retreat from society (Leister, 1985, p. 46).

Nevertheless it's a powerful ending to a story, inspiring people to think outside the box. The meaning of language to a design is an interesting topic, especially with respect to the abstract assignment of Food City.

The assignment of Food City was one of the two immediate causes for this research, and deserves therefore a more elaborate explanation. Finally it made me aware of the limitations of visual tools and inspired me to start researching the use of language in the design process. To achieve a complete understanding of the discourse on narrative it was necessary to first analyse the extensive research of Gänshirt in "Tools for ideas" (2007). He discusses the distinction between verbal and visual tools and expresses some relevant critics on design education.

The second motivation for the research was the recent dissertation of Havik on "Urban Literacy" (2012), that continues on the prescriptive qualities of literature in (urban) design.

I don't want to pretend to offer new philosophical insights in the field of phenomenology or even pretend to grasp that particular part of the discourse. That is outside the reach of our education and completely beyond the scope of this assignment. Instead I would like to offer an understandable and comprehensive review from the theory on design media until the practical implementation of the written narrative on design.

To gain extra insight and clarify the relevance of every topic I would critically link it to the recent design project throughout the whole research. The essay will conclude answering the four stated questions to put it in the broad context of practice and education. The recommendations will at last provide some practical implementations of the research outcome for the (methodology) course.

2 Constructive narratives

2.1 Case study 'Food City'

Before going into the scientific discourse it's useful to illustrate one of the motivations of the essay more into depth, to show the relevance of the question.

The immediate cause of the theme are the experiences in the design course of Q3: Food City.

The assignment of Food City (a collaboration between Urbanism and T?F) was to design a future city of half a million inhabitants, that is self sufficient in terms of food. The goal of the studio was first of all to create a feasible city, with well-thought out water management, waste systems, transportation and trade. Quantitative facts should be made comprehensible, leading to a blue-print prototype (contextless) plan (Hackauf, 2012).

The assignment however triggered many questions: how could the mentality of inhabitants towards food production be shifted? People lost contact to food in modern society, so how should one become aware again of the food production and how could this process be guided spatially? Besides that: how could a city actually grow on the relatively small surface in a resilient way, and still be in contact with food production throughout the evolution?
Our group B (including I. Dimitrakou, P. Madani, A. Reynolds and myself) chose another approach. In our opinion the harsh quantitative approach didn't pay respect to the intellectual potential of the assignment. So we chose a more subtle approach, focussing on the evolution instead of the final phase: "the evolution of grid city".

We chose consciously to put the Food City in the specific context of the Haarlemmermeer (the location of the regular Q3 course: Spatial Strategies for the Global Metropolis), to find starting points for the design. The iconic grid of the polder is used as a basis for the evolution. The city would grow in strips alongside the water, parallel to the existing food strip and thereby emphasizing the original, iconic landscape of the polder.

The design process started with the use of diagrams, to be able to explore and discuss different ways of evolution efficiently. For the midterm presentation an experimental collage was made, showing the evolution of the city (see illustration 1).

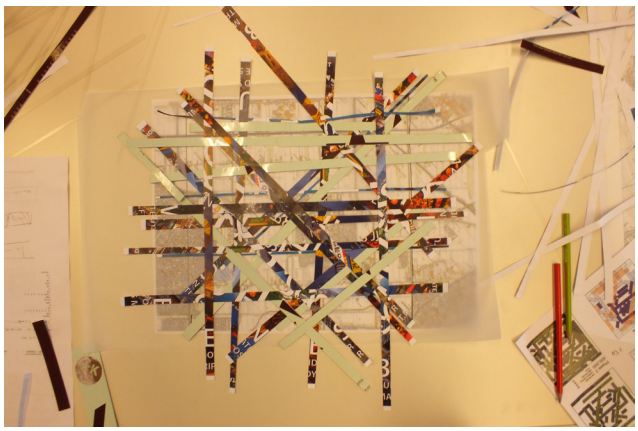


Illustration 1: Collage of strip city. This image was produced by L.A. Korst.

In this stage the 'composition' of the strips was more randomly. At the end this representation (although converted to AutoCad) was too abstract and raised many practical questions. In the final presentation the evolution of the food production in relation with the growing city is shown in a series of abstract

diagrams, referring to the plan. The actual evolution of the city is shown in more concrete plans (see illustration 2), leading to a master plan and an overall 3D view (see illustration 3).

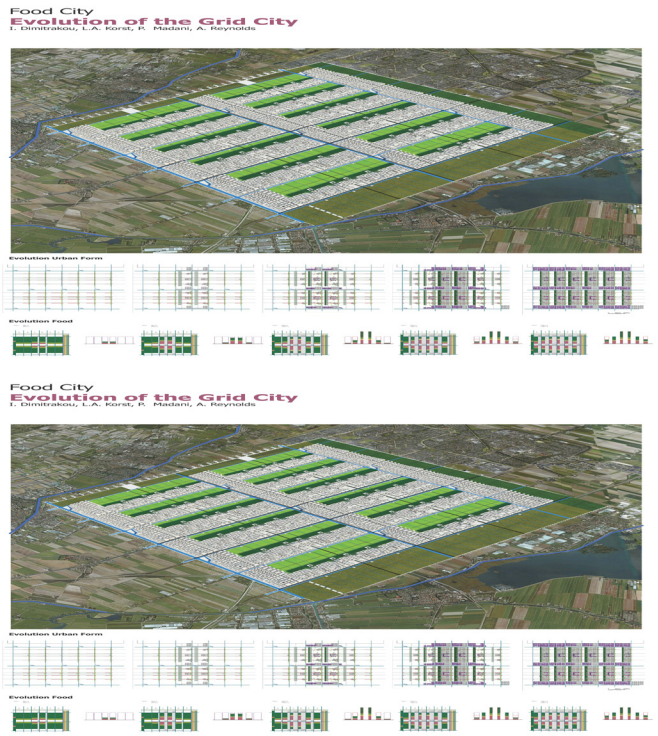


Illustration 2: Evolution of the city. This image was produced by I. Dimitrakou.

The design originated from some intelligent ideas about evolution. If one looks critically at the final results they are somewhat disappointing. It turned out to be difficult to catch the intrinsic qualities of evolution (like resiliency and diversity) in a convincing visualisation. This can not only be accounted for by lack of proper knowledge of the possibilities of (digital) design media and/or group work complications and/or time restrictions: it also has to do with the influence of the choice of design media on the creative design process as well as the communication of the plan.

The assigned visual tools could not deal properly with the ephemeral implications of evolution. The potentials of the unique perspective were not expressed to their best by the use of visual tools, which are evidently fit to communicate a blueprint plan. The visual tools were not helpful for the creative design process either. By fixing the mindset on drawing a final plan it rather blocked the creative, flexible idea of evolution.

Furthermore during the design process there have been endless (interesting) discussions, but never a moment of reflection. We didn't put down our goals, which made it hard to evaluate the temporary products. It was not until we had to create the booklet for Daan Zandbelt (2012) that we wrote down our original goals and were able to reflect on the final products and truly express our ideas. Where the visual tools were ineffective to present evolution, the verbal tools provided a solution. At that moment the power of language became evident and finally the subject of this research emerged.

Illustration 3: 3D image of grid city in Haarlemmermeer. This image was produced by P. Madani.

2.2 Discourse on design media

2.2.1 Media tools

To be able to discuss the meaning of language as a design medium, it is important to clarify the existing discourse on design media. For this purpose the extensive research of Christian Gänshirt in "Tools for ideas" will be used. The different kinds of design media have been addressed to as 'tools' (2007, p. 94). This metaphor is used to express the special relation between the designer and the design media:

" (...) in the cycle of designing, the sender of a message is also its first recipient and critical assessor. In this way the message becomes the design, the medium a design tool." (Flusser, 1989, p. 243).

Flusser (1989, p.3) points out that 'tools do not only shape our concrete actions, but also our thinking.' In the remarkable process of designing (intellectual ideas taking material form), whether in images or in text, one should therefore be aware of the influence of the specific medium of design.

2.2.2 Visual – verbal tools

To make it possible to analyse the different design media, Gänshirt (2007, p.62-64) divides them in two: the visual-spatial and verbal tools. They convey different associations (see illustration 4). The distinction between the two concepts of thinking, can be traced back to the specialization of different areas of the brain. The left hemisphere of the brain deals with analytical, logical-linguistic thinking and operates in a linear fashion, while the right hemisphere prefers visual-spatial, synthesizing and holistic thinking. This has been thoroughly researched by different authors, like Eccles (1973), Edwards (1979) and Sattler (1998).

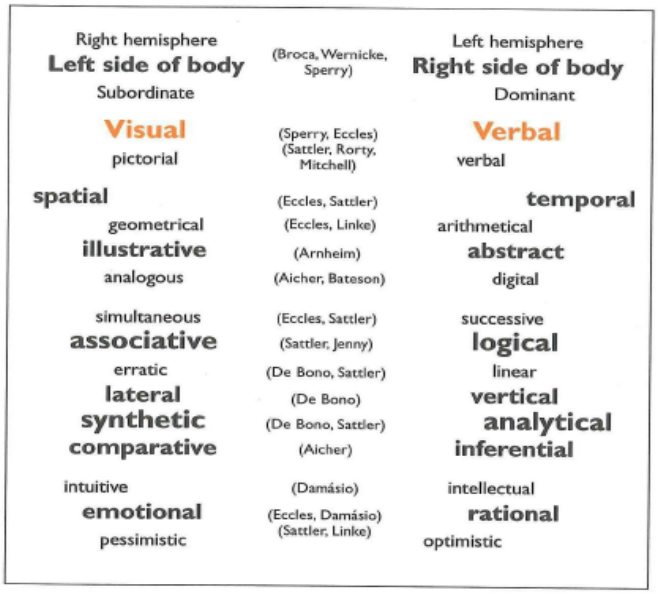


Illustration 4: Pairs of terms associated with the complementary ways of thinking. This image was produced by C. Gänshirt.

Quite recently empirical cognitive research has been done on the relation of the use of pictures or words on the perception of distance, by the so called "construal-level theory" (Amit et al., 2009). This theory proposes that objects or events can be mentally represented at multiple levels: high-construal level are abstract representations (words), while low-level construals are concrete representations (pictures). The most important conclusion is that words are fit to represent distal events (spatially, temporally and culturally), while pictures communicate a sense of closeness. A well-known example of this theory is the use of words to describe God or Allah, instead of pictures, that cannot deal properly with the abstract and complex implications of representing a holy entity (Amit et al., 2009, p. 52-60.)

This relates on a different level to the design of Food City. There was a struggle to find a way to represent the abstract idea of evolution by pure use of imagery. The use of words could have at least complemented the range of plans.

Gänshirt notices that in practice there exists a form of competence between the two ways of thinking: 'architects likely condemn verbal thinking as 'grey theory', while some cultures reject the use of the associative/emotional visual-spatial thinking.' (2007, p. 62). Gänshirt pleads to avoid this confrontation, but to make use of the possibilities of mutual suggestion and stimulation on the one hand and reflection and observation on the other hand:

" Visual tools that produce images make it possible to express inner ideas in a visual form, so that these can be looked at critically and conveyed to others, while the verbal design tools that produce texts are there to describe, analyse and criticize design ideas. Or put briefly: the visual tools are used primarily for devising form, and the verbal tools for developing the meaning of a design." (Gänshirt, 2007, p. 101).

2.2.3 Language

The spoken word (or "language") is expressed as 'the 'first material manifestation of our inner ideas and the most ephemeral of all design tools' says Gänshirt (2007, p. 125), 'it's closer to the fleeting thought than to the physical gesture and its primary record: the sketch. Language as a design tool operates on a different plane of abstraction from the sketch.' But one should be aware that there's no equal status to verbal and visual design tools. 'There are things that cannot be clearly expressed in language, but can be shown,' according to Wittgenstein (1921, propositions 6.421, 6.522).

Gänshirt criticizes the neglect of linguistic modes of expression in (German) higher education. Language is not a common design tool used at the faculty, even though it's known to be an important aspect of practice: meetings, negotiations, presentation, etc. (2007, p. 127). It's interesting to connect this to another critical statement (or recommendation) that's expressed at the end of the book. Here Gänshirt addresses the fully practice-oriented form of design teaching, which confines itself to formulating problems and criticizing students' attempts to solve them. 'The focus is on the feasibility, not on tackling the actual complexities of a design' (2007, p. 226).

This can then be linked to the objection to the approach of Food City, that's expressed in the forgoing chapter. Contemporary design asks for another approach, with the use of alternative design media, for example the verbal tools.

Next to that Gänshirt points at the meaning of language for critical reflection. 'By reformulating the design problem, or translating an idea from the visual to the verbal sphere, a cognitive process is triggered that leads to new insights' (2007, p. 130-131). This form of self-interrogation is used frequently by Oscar Niemeyer. The adaptation of a visual design in a verbal concept, makes it possible to become subject of evaluation or criticism (Niemeijer, 1993, p. 9/43).

Here the explanation of the possible meaning of verbal tools for design (purely for reflection/observation) seems somewhat one-sided. The true potential of language remains underexposed. Moreover Gänshirt (2007, p. 133) admits this in the conclusion: 'This chapter has by no means discussed the verbal design tools exhaustively.'

But what is the creative potential of language then precisely? In this respect it's useful to introduce the research of Havik in the next chapter.

2.3 Discourse on the narrative

2.3.1 Lived space

The research of Havik focuses on the ability of literature to describe, transcribe and even prescribe space. Her research recently concluded in the dissertation "Urban literacy. A scriptive approach to the experience, use and imagination of place" (2012). The paper however is based on her forgoing article "Lived Experience, Places Read: Toward an Urban Literacy" (Havik, 2006) which is an introduction to her PhD research.

Havik's (2012) hypothesis is that 'because existing literature can provide insights of 'lived space', a literary approach using instruments from literature is also conceivable within the domain of architectural research and design.'

Lived space is a term coined by Lefebvre, and introduced in his book "The production of space" (1991). It is crucial part of his triad spatial model on the relationship between lived space (or representational spaces) on the one hand and conceived (representations of spaces) and perceived space (spatial practices) on the other. The two seemingly incompatible poles of conceived space (the intellectual construction of space: design) and physical perceived space (in which information is acquired by the senses) can be bridged by the concept of lived space, which exists in the memory and thoughts of people and can be expressed in stories (Lefebvre, 1991, p. 130).

2.3.2 Time

'Time is essential part of lived experience, which has been lost in modern architecture', according to Lefebvre (1991, p. 95). This viewpoint is shared by Alberto Pérez-Gómez, who criticizes the world civilisation that 'seems to be lost in an obsession with the image (...) the objectivity and rationality of modern architecture has stripped any connection with the reality of human perception' (1998, p.462). He therefore pleads for a 'more poetic approach in architecture, that is based on the subjective sensorial experience of the environment.' (Pérez-Gómez,1998, p. 475).

The narrative can therefore be called a true design medium, appropriate to express the ephemeral qualities of design.

Here the move is made to literature or narrative as an inspiration for design. The narrative hereby becomes a design tool.

In Michel de Certeau's "The Practice of Everyday Life" (1984) the use of literature for describing lived experience is explained more concrete. Instead of geometrical or theoretical space, De Certeau looks for specific forms of use, actions in daily life. He notices the neglect of growth, change, decay and memory in current design practice. Those ephemeral concepts are more prevalent in literature than in architecture. To analyse the ephemeral city full of stories one should identify two sources of inquiry: alongside scientific literature (sociology, anthropology etc.), more descriptive literature provides insights into the way in which space is used and experienced. 'The narrative therefore is of undeniable scientific value', according to De Certeau (1984, p. 78).

The meaning of narrative is further defined in "Landscape Narratives" (Potteiger & Purinton, 1998). The narrative implies a knowledge acquired through action and the contingencies of lived experience. It should not be confused with the "story". They state that 'the narrative refers to both the story, what is told, and the means of telling, implying both product and process, form and formation, structure and structuration' and '(...) the narrative is ultimately a language of time' (1998, p. 23/25).

The narrative can therefore be called a true design medium, appropriate to express the ephemeral qualities of design.

The use of the narrative is further explored in the debate about to the Creative City, initiated by Landry (2000). He points out the growing interest in the literary approach. 'In recent design we can detect a shift from production-oriented to a concept-oriented society. Experience, atmosphere and diversity become more important than hard factors such as industry and infrastructure that define the economic potential of the city.'(Landry, 2000, p. xiii).

Here is another parallel with the original assignment of Food City. Against this background, the assigned feasible approach seems outdated and not applicable to the uttermost ephemeral implications of the assignment itself.

But what exactly could be a concrete application of the narrative as a design method be then?

2.3.3 Prescriptive narratives

'The descriptive nature of literature, is after all far removed from the prescriptive character that typifies the design disciplines', as is stated by Havik (2006, p. 46). To express the potential of literature for prescriptive purposes she uses the example of Rem Koolhaas in "Delirious New York" (1978). 'He does not only describe Manhattan, but at the same time alter it, he rewrites it', as Havik (2007, p.46) mentions. In this perspective the product of urban literacy could be explained with the analogy of the maritime log: a collection of observations. By researching the subjective impressions from multiple standpoints, one could become aware of the true perception of space by use of lived experience. Isolation is another method of literature, that Havik highlights as a tool for design research (2006, p. 48).

By significantly isolating certain aspects, like a particular sense, a specific character or a specific time, the designer can efficiently analyse different aspects. The notion of time plays here an important role. More than simply leading to a final representation the use of narrative can be used to 'develop a structure in which time has room to breathe, to let ageing, growth and even decay unfold' (Havik, 2006, p. 48).

In this approach design is thus no longer the construction of a new situation (like Food City), nor is it literally a reading of the place. The work of the architect is better compared to editing: responding to an existing structure and giving it a chance to evolve. Or as Pérez-Gómez states: 'The main concern of any generative theory of architecture is (...) to find appropriate language (in the form of stories) capable of modulating intended actions (projects) in view of ethical imperatives, always specific to each task at hand' (2002, p. 35-55). Havik concludes that the practice that emerges from such a theory can never be an instrumental application, but rather appears as a verb (2006, p. 49).

2.3.4 Critique

However there are some general critiques on the narrative as part of scientific research, that have to be expressed to complete the discourse on the narrative.
One of the complaints is that the narrative inquiry lacks theoretical background (Clandinin & Connelly, 2004, p. 1-4).

Gottlieb and Lasser express their fear of misuse of the narrative research. They recommend that narrative researchers 'develop guidelines for inclusion of participants that are maximally inclusive to avoid the systematic bias of disadvantaging unpopular voices' (2001, 190-193).

This does certainly apply to the use of narrative inquiry in social sciences, when the experience of actual physical space is subject of research. In the process of designing a space, this inquiry doesn't really exist. The use of different perspectives can be simulated by the designers, but this implies subjectivity.

The design research however is a specific part of science, that has to deal with subjectivity in perception. The design to some extent is always the product of personal choices of the biased designer, and therefore subjectivity is inextricably part of it.

The most general comment on qualitative research as a whole is that it is said to be neither prescriptive nor definite. 'Narrative studies prompt new research questions and do not attempt to answer them, nor are they predictive of the future' (Asher & Lauer, 1988, p.20).

This proves that the current critique on narrative is mainly dedicated to the general scientific application. The design research however is a specific part of science, that has to deal with subjectivity in perception. The design to some extent is always the product of personal choices of the biased designer, and therefore subjectivity is inextricably part of it.

Moreover, Havik has shown that the use of narrative can certainly be prescriptive, by use of methods like log and isolation. Her research also stresses the ability of the narrative to let time to play a role in design, in that way it could try to predict the future at least. This refers to the earlier notion that the narrative will never be a purely practical implementation, or in Havik's words: "(...) architecture no longer provides a happy ending, but instead allows stories to continue." (2007, p. 49).

3 Conclusions

Design media are integral part of the design process, although their influence on urban design, planning and communication is often overlooked. Especially the use of verbal tools is underexposed in current design (education).

The theme of this essay – the use of language, or more precisely: the written narrative, as a constructive part of the design process - is relevant for urbanism, to rehabilitate the use and acknowledgement of language. To position the use of the narrative there has been made gratefully use of the elaborate research that is assembled in "Tools for ideas" by Gänshirt (2007). The distinction between the possibilities of visual-spatial tools (to express inner ideas in visual form) on the one hand and the use of verbal tools (to develop the meaning of an idea) on the other hand is discussed. Gänshirt criticizes the neglect of the (use of) verbal tools in Western design education and the production-oriented approach that doesn't address the complexities of contemporary design assignments. However, he fails in addressing the full potential of verbal tools, which could be the solution to this mismatch. In the research of Havik on 'urban literacy' the use of literature to become aware of how people experience, use and imagine places is analysed.

The narrative, a literary qualitative research method is utmost fit to represent the ephemeral qualities of today's design assignments. Concepts like time, decay and growth are particularly present in literature. By use of analogies from literature architects and urban designers can become able to think not in final feasible designs, but prescribe flexible structures for an unpredictable future.

The critique on the narrative is that it would not be scientific (purely objective empirical research) and prescriptive nor definite. The point that is made in this essay however is that the quality of a design is not defined by how clear the future is captured (or better: fixed) in a convincing image, but how the narrative can provide a strategy for multiple possible futures.

The power of language has always been undeniable to me. It has always been unconsciously reflected in my activities as an urbanist during discussions, presentations etc. But it was not until

I became aware of the restrictions of the common visual tools after finishing the recent design project, that I thought of the possibilities of language (or more precisely: the narrative) for the creative design process and communication. From now on I will try to integrate the narrative into the creative design approach, as a subjective and perceptive medium completing the illustrative qualities of visual tools. In that way the theme is included in my future academic and professional life. This all inevitably leads to the question: is this theme reflected in the TU Delft Urbanism course?

The answer to this question was primary the motivation to this research, that is to say in my opinion the use of language/ narrative is neglected.

4 Recommendations

My concern with the Masters course is two-sided and is somehow partly already expressed by Gänshirt. However he does not come up with very practical suggestions, besides the expectable references to his book. I will link the recommendations to my own experiences and try to think of practical implementations.

1: The use of language/narrative in the design process is mainly neglected in the Q3 course, like in almost every course. In the design course we were demanded to make use of the apparent design media and were not inspired to explore alternative design tools. The reflection by use of narrative came

after finishing the project. The strict division between design and writing has always been the case at every design project I have been working on (one positive exception being BSc6-course, where the Bachelor Eindwerkstuk (final paper) was partly interweaved with the design project).

Here the solution could be given by a slight change of program of the methodology course. There could be more attention to the importance of verbal tools, if only for the benefit of methodology itself, that also relies to a large extent on the verbal abilities.

I think it is a missed opportunity that the paper is not part of the design project, although I am aware of the organisational complications this would imply.

2: Of more concern, and probably the reason for this neglect, is the predominantly product-oriented design approach that is used in the faculty. We mainly tend to think in A: detecting (future) problems and B: solving them efficiently. This is a very conservative mindset, that does not inspire to invent new approaches, which should be the goal of a Master of Science-education. Some (utopian) assignments like Food City are probably more fit to explore alternative approaches and use of design media then the reality based assignments, like for example regular Q3: Spatial Strategies for the Global Metropolis. My plea is therefore to take advantage of this new collaboration and allow new approaches to flower in this course.

References

AMIT E., ALGOM, D., TROPE, Y. & LIBERMAN, N. ,2009. Thou Shalt Not Make Unto Thee Any Graven Image. The Distance Dependence of Representation in: Handbook of imagination and mental stimulation. New York: Psychology Press

ASHER, J.W. & LAUER, L. ,1988. Composition research: empirical design. New York

CERTEAU DE, M. 1984. The Practice of Everyday Life. California: University of California Press

CLANDININ, D.J. & CONNELY, F.M., 2004. Narrative Inquiry, Experience and Story in Qualitative Research. New York: Bantam Dell

ECCLES, J.C., 1973. Understanding of the Brain. New York: Bantam Dell

EDWARDS, B. , 1979. Drawing on the Right Side of the Brain. A Course in Enhancing Creativity and Artistic Confidence. Los Angeles

FLUSSER, V., 1989. Vom Unterworfenen zum Entwerfer von Gewohntem. In: Prof. Fritz Haller, Intelligent Building. Symposium at the Faculty of Architecture at the University of Karlsruhe, Institute of Building Design

GOTTLIEB, M.C. & LASSER, J., 2001. Competing Values: A Respectful Critique on Narrative Research. Ethics & Behaviour, 1-2

HACKAUF, U., 2012. Project description Food City

HAVIK, K. M., 2012. Urban literacy. A scriptive approach to the experience, use and imagination of place

HAVIK, K. M., 2006. Lived Experience, Places Read: Toward an Urban Literacy. Oase, 70, 37-49

KOOLHAAS, R., 1994. Delirious New York – A Retroactive Manifesto for Manhattan. Rotterdam: NAI Uitgevers.

LANDRY, C. , 2000. The Creative City. A Toolkit for Urban Innovators. London: Demos

LEFEBVRE, H., 1991 [first edition 1974]. The production of space. Oxford: Blackwell

LEISTER, E. C., 1985. Voltaire's Candide. Barron's book notes. New York: Woodbury Press

NIEMEYER, O., 1993. Conversa de arquitecto. Rio de Janeiro: Revan

PÉREZ-GÓMEZ, A., 1998. Introduction to architecture and the crisis of modern science. In: Hays, K.M. Architecture Theory since 1968, New York:

POTTEIGER, M. & PURINTON, J., 1998. Landscape Narratives: Design practices for telling stories, New York: John Wiley & Sons

SATTLER, B.J., 1998. Der umgeschulte Linkshänder oder Der Knoten im Gehirn." Donauwörth: Auer

VOLTAIRE, 1959 [first edition1759]. Candide. New York: Bantam Dell

WITTGENSTEIN, L. (1921). Tractatus logico-philosophicus. Logisch-philosophische Abhandlung, Annalen der Naturphilosophie. Frankfurt am Main: Suhrkamp

ZANDBELT, D. (2012). Q3 Booklet

For more information, please write to
Roberto Rocco
r.c.rocco@tudelft.nl

ISBN: 978-946186-040-8

TU Delft Delft University of Technology

URBANISM