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COORDONATOR/COORDINATOR:
Anda-Ioana SFINTEŞ

TRADUCERE ÎN ENGLEZĂ DE/
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Florina TUFESCU

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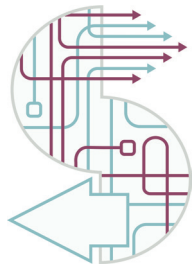

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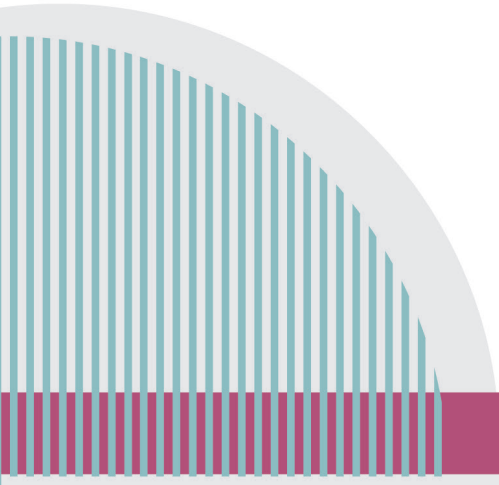

urban planning approach

Andrei MITREA
Dana MILEA

INTRODUCTION

The problem

Any urban planning project must solve a genuine problem, current or future, that needs to be dealt with in good time. In light of this, the two main qualities of successful urban planning are the clarity of problem formulation and the effectiveness of the proposed solution.

Yet, achieving both qualities entails a sustained effort, which generally spans several years. This has nevertheless the advantage of transforming every urban planning challenge into an applied research exercise that gradually expands the horizon of the research team and trains their thinking.

A fruitful problem must thus be examined, often in depth. Yet, not all problems are relevant for planning practice. Therefore, we need a method of selecting the problems that are relevant to the project.

What kind of problems? A problem must fulfil three conditions to become an urban planning problem (Maurer, 1973)[1]:

1. The relationships between the well-being of communities and the built environment are known, if only approximately;

2. There are mechanisms of influencing the built environment, which can be used to benefit the well-being of communities;

3. The selected problem cannot be solved by direct interventions in any single field (social, economic, legal, etc.)

[1] The three conditions are equally applicable within the framework of an urban and a territorial planning project.

In other words:

> The core task of planners is to solve complex problems. [...] Planning represents the conceptual anticipation of actions and ultimately serves no other purpose than to solve problems of varying complexity. (Schönwandt et al., 2013, p. 7-8)

The anatomy of a problem. Graphically, the anatomy of a problem is given by the following equation (Schönwandt et al., 2013):

$$P = A[-] \rightarrow M? \rightarrow B[+]$$

Where:

A[-] represents an initial deficient state or, in other words, an initial unsatisfactory situation:

> By definition, a deficient state exists if somebody suffers from something. If [,] for a given problem, the objective is to filter out a precise A[-], i.e. to recognize what the matter at hand actually is, it is recommended to ask the following question: "WHO IS SUFFERING? (Schönwandt et al., 2013, p. 25)

B[+] represents the final adequate state or, simply put, the final satisfactory situation. In planning practice, B[+] is called an objective:

> By defining a goal[,] we devise and determine the course of action. So far, so good. At the same time, however, we tend to completely mask out other, potentially promising search vectors[,] which may lead to improved solutions. (Schönwandt et al., 2013, p. 27)

M? represents the measures that must be taken to improve the initial situation. The question mark indicates the fact that these are not known at the stage of problem formulation. Otherwise, the formulated problem could be solved by following a predetermined procedure.

> The recipe for success is: think further, beyond the first idea that comes along and beyond the limits of your own professional field... (Schönwandt et al., 2013, p. 28)

What are the causes of a problem? Any urban planning problem has one or several causes. Yet, on carefully reading the third above-mentioned condition we can surmise that urban planning problems usually have several causes.

An efficient technique of arriving as close as possible to the main causes of a problem is illustrated in the images below. It is called the translation or displacement of the problem and it can be done forwards or backwards, until we are fully satisfied with its formulation.

Finding the main causes of a problem is very important, since it helps us discover where we can intervene most effectively for solving it. Thus, when formulating the measures for improving the initial state A [-], we should concentrate primarily on eliminating the causes and not merely on addressing its effects.

Fig. 6. Initial formulation of the deficient state A [-]
Source: adapted from Schönwandt et al. (2013, p. 35)

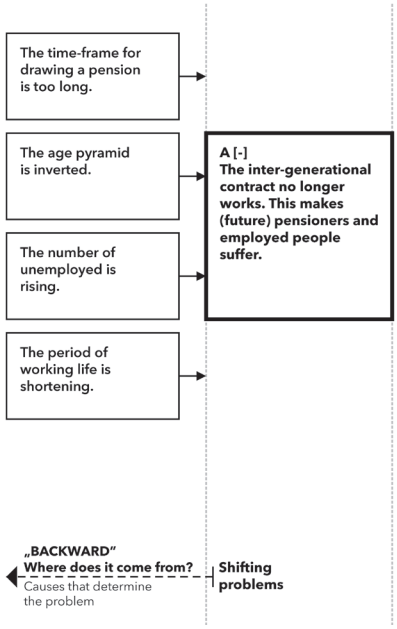

Fig. 7. Moving the deficient state A [-] a single step backwards
Source: adapted from Schönwandt et al. (2013, p. 35)

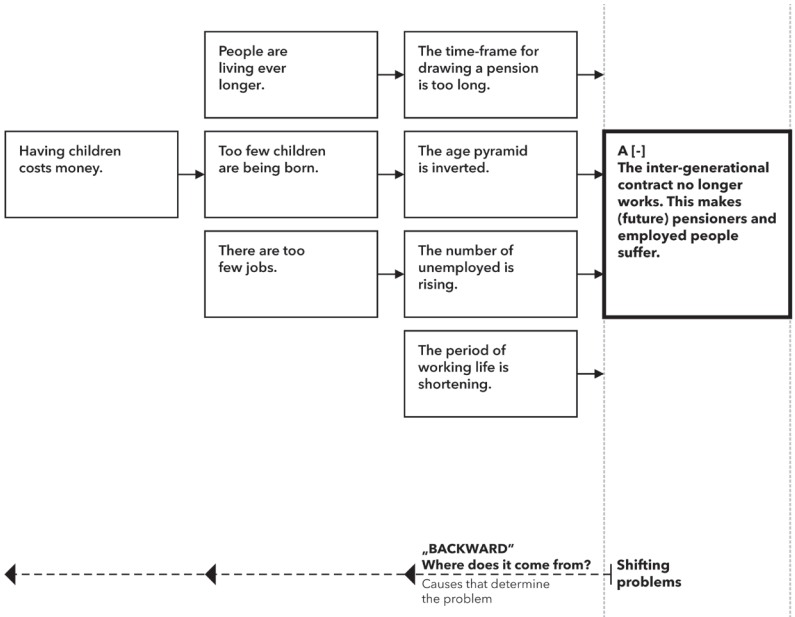

Fig. 8. Moving the deficient state A [-] backwards by two and three steps
Source: adapted from Schönwandt et al. (2013, p. 36)

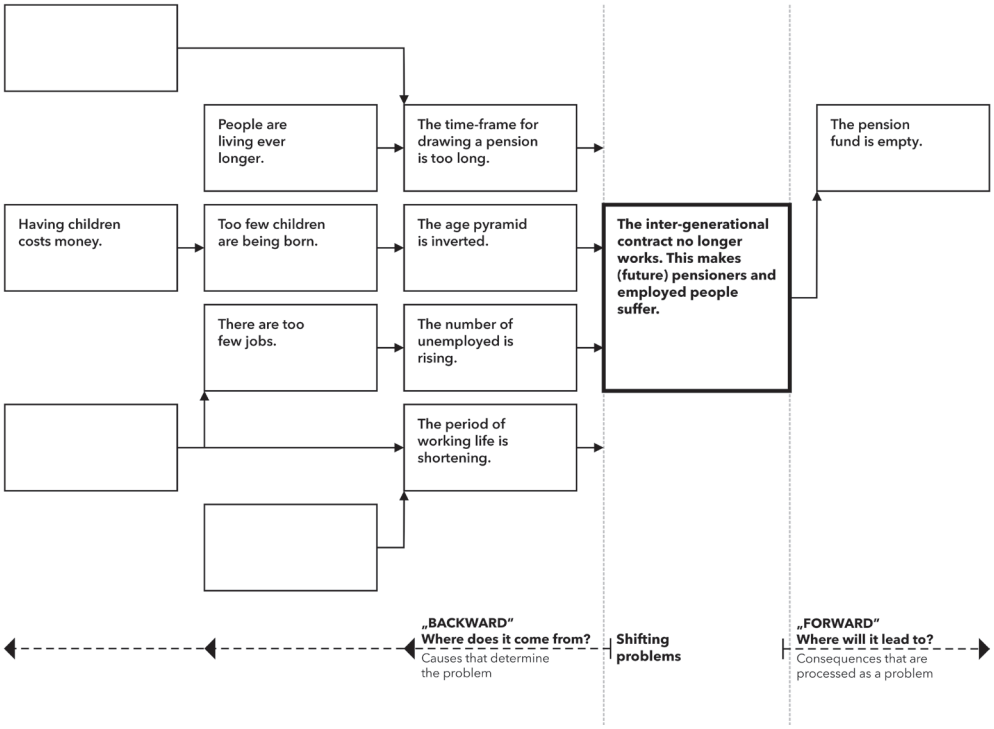

Fig. 9. Moving the deficient state A [-]a single step forward
Source: Schönwandt et al. (2013, p. 37).

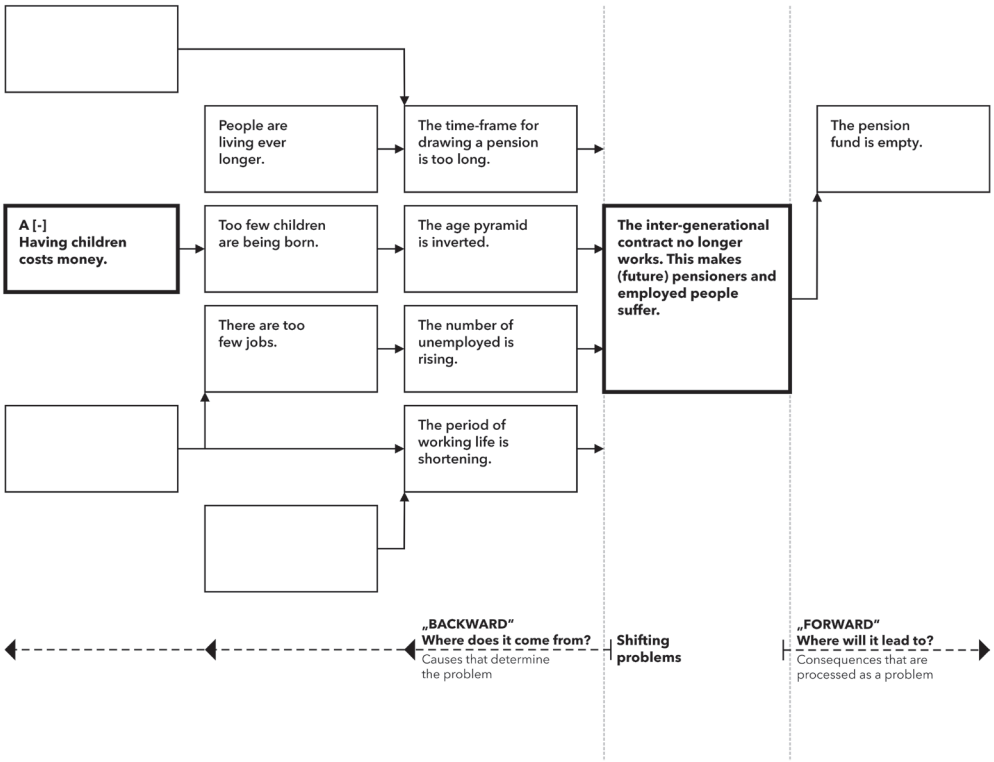

Fig. 10. Repositioning of the deficient state A [-], following the displacement
Source: Schönwandt et al. (2013, p. 38)

The concept

Concepts are either useful or useless. More precisely:

> Concepts may be thought of as being neither true nor false; they are apt or inept, clear or vague, fruitful or useless. They are tools designed to capture relevant aspects of reality and thus "constitute the definitions (or prescriptions) of what is to be observed" [(Merton, 1949, p. 87)]. (Coser, 1954, p. 7)

Concepts are important in design, since they can quickly convey the main idea of the project and the argumentation behind it, both to colleagues and to the tutoring team or to the jury. Nevertheless, they can also entail risks, when they are insufficiently understood or when they are badly explained. A certain ability is thus required in dealing with them, which develops gradually, through the gradual interlinking of the projects we work on.

For this reason, concepts must be studied carefully. The best option is called the critical analysis of the bibliography and answers the following research questions:

_What is the current definition of the employed concept? What does it actually mean?

_Who has studied it before?

_What do we know about it at present?

_What is its use to our project?

Solving the problem

The most efficient means of solving a problem consists of the four steps detailed below (Pólya, 1971).

1. We seek to understand the problem, viewing it from as many angles as possible.

2. We formulate a plan for solving the problem, wherein we try to find the shortest route from the unknowns to the data, possibly considering also a few intermediary problems. The plan for solving the problem includes the following four items:

_The analyses, which state the relationship or relationships between the unknown and the available data. In addition, we are interested in the order in which we conduct the analyses, so as to find the shortest route to effective argumentation, which supports the solution proposed through the project;

_The synthesis, from which every argument of the proposed solution is clearly derived;

_The diagnosis, which explains how the main causes have created the problem that we intend to solve. It thus provides the foundation of every argument in the synthesis;

_The design brief, which tells us what conditions must be met for a proposal to be a true solution.

3. We implement the plan formulated above and we adapt it to each new situation we encounter.

4. We check the obtained results and view them critically, questioning whether we could have also obtained them in a simpler manner.

Each step has its precise role in design, according to Pólya (1971):

◊ In the first step, we attempt to construct a perspective of the problem that is as coherent as possible, by already looking at the available data and the data we can obtain. The more numerous the interesting perspectives we can find for looking at the formulated problem, the more complete our understanding will be and the more of its implications we will discover.

Here, the significance of bibliographical study and of the previously mentioned concepts makes itself felt since these suggest answers to the following four research questions:

_What are the implications of the problem we are interested in?

_What are the available data and what are the supplementary data we could obtain, without too much effort?

_What are the conditions that the project is required to meet?

_Does the chosen concept suit the identified problem?

◊ We have a plan when we know what analyses we must conduct and in what order they must be performed. It is easily noticeable that drafting the plan is the most laborious of all the steps, since the plan crystallises gradually, by testing and evaluating several types of analyses, depending on the gathered data. Yet, good ideas can only emerge from the experience gained in the past, so the working method we propose needs to be practiced a few times.

At this point, what matters most is to find out the minimal number of analyses that will have maximum impact on the project. In other words, the performed analyses and their sequence must demonstrate the relevance of the formulated problem to the project and provide the substantiation of the proposed solution.

We have several research questions here as well:

_What are the analyses we can perform and what data do we need for them?

_Can we derive from each analysis at least one viable argument in support of our project?

_How many analyses do we need to perform? Can we reduce their number by reordering them?

After this step, we can move to conducting the chosen analyses and formulating the arguments that will support the solution proposed in the project. The proposed arguments must be logically connected so as to be easily understood, both by colleagues and by the tutoring team or the jury. The series of the proposed arguments is called the synthesis. In its turn, the synthesis prompts another two questions:

_Is the argumentation developed in the synthesis persuasive?

_Is there a clear connection between the conclusions of the analyses and the argumentation in the synthesis?

After briefly describing the arguments for the proposed solution, ordered in logical succession, we clarify how the problem arises and show its causes and functioning mechanism. In other words, we validate the arguments presented in the synthesis. The explanations given make up the diagnosis.

Similar to the synthesis, the diagnosis can be controlled, in its turn, by two questions:

_Is there a clear explanation in the diagnosis for every argument in the synthesis?

_How many explanations do we need to offer? Can we support several arguments by a single explanation?

As we gain experience, we will be able to anticipate what kinds of arguments can be derived from each analysis, how they can be linked and what information supports them. More simply put, we will be able to connect the structure of the synthesis and of the diagnosis before having the results of the analyses. However, this is an ability that only develops over time.

To complete the plan successfully, the only step left is establishing the design brief, which clearly defines the problem to be solved and the set of conditions that must be met by the project solution. Building a design brief relies on the information and the arguments formulated in the analyses, the synthesis and the diagnosis.

◊ Implementing the plan is the easiest step, since it entails taking the previously identified steps. However, we must not forget that the plan is a flexible instrument. Thus, if new, important information or situations appear, which we discover in the course of our work, we must modify the plan to include them. In other words, the drafting and implementation of the plan go hand in hand and exert a mutual influence.

◊ The retrospective view serves to improve the proposed argumentation, holding the key to development from one project to the next. In principle, each additional project should generate more convincing and elegant argumentation than the previous ones. Thus, this retrospective view should answer the following questions:

_Is the accomplished synthesis clear? What about the diagnosis and the design brief?

_Has the audience understood the argumentation or were there some doubts left?

_ Could we have made a simpler and more accessible plan? If so, how?

RELATION TO LEARNING AND TEACHING OBJECTIVES

The aims of the studio brief aim are, inter alia, for students to be able to use an urban planning approach as a primary component of their projects. This ability develops only gradually, over the course of years of study, with all disciplines contributing to the learning process. Design studios play an especially important role in this since they offer students the opportunity to systematise, synthesize and apply different types of useful knowledge that they have assimilated in their university courses.

From a broad perspective, the studio brief encourages students to explore, via an urban planning approach, how users of the city conduct their

activities, in the area where they live or work. At the end of the exercises, the students discover:

_The main problems faced by people in everyday life, in their interaction with the city;

_A series of possible solutions to the identified problems.

The main purpose of projects is for the students to understand how city dwellers interact with the built environment in their daily activities. They use, among other tools, working exercises with rules and densities, thus taking a first step towards understanding the functioning of the urban fabric. In addition, during projects, they conduct a systematic study of at least two topics, both fundamental to the urban planning approach:

_The relationships between the residents' quality of life and the functioning of the urban fabric;

_The relationships between plots, buildings and exterior spaces, both public and private, as perceived and evaluated by different categories of users.

RESEARCH – CRITERIA AND CONCEPTS

Urban rules

> The plan is among our most powerful tools. We are less trained to cope with urban rules. (Lehnerer, 2013, p. 58)

Rules are the most important instruments of the urban planning profession. The main difference between architects and urban planners somewhat recalls the difference between arithmetic and algebra: thus, if in arithmetic we are only interested in the solutions to specific problems, in algebra we search for families or categories of solutions to the formulated problem. Similarly, the architectural project finds a specific solution for a given context, while the urban design or urban planning solution makes the rules of the game, wherein the architectural project seeks its solution.

> Rules have a bad reputation. Architects in particular are not terribly fond of them. (Lehnerer, 2013, p. 61)

In a nutshell, any rule describes a relationship. To illustrate this, we have given below a few examples of interesting urban rules.

> Towers at primary streets: Large buildings shall stand on broad avenues. (Lehnerer, 2013, p. 19)

> Special districts: Within geographically defined areas, the city has the discretion to give special consideration to local particularities through special regulations, and otherwise to suspend or modify citywide regulations. This rule will be supplemented and supported by the corresponding planning materials. (Lehnerer, 2013, p. 21)

> Land preservation: The best way to save land is to buy it. (Lehnerer, 2013, p. 17)

Albeit precisely formulated, urban rules allow for different architectural solutions. In other words, urban rules circumscribe what is called the space

of possibilities, which creates the freedom necessary to architects. More precisely:

> The freedom contained in a rule consists precisely in that which it does not specify. A conscious lack of specificity becomes a design necessity. (Lehnerer, 2013, p. 65)

On carefully reading the above quotation, we can summarise the main characteristics of urban rules (Lehnerer, 2013):

1. Urban rules are operational instruments, which can be used both in urban design and planning;

2. A well-made urban rule includes both the design or planning instructions and their method of verification;

3. Depending on their formulation, urban rules allow different degrees of freedom for the architects or, as we have previously stated, greater or smaller room for intervention opportunities;

4. The degrees of freedom inherent to any urban rule generate a series of ephemeral qualities of urban spaces, with diversity and vitality being the most important;

5. The degrees of freedom are also the ones that enable cities to adapt to unforeseen events, making them more sustainable.

When working with urban rules, you should systematically ask yourselves the following questions:

_Which aspects are subject to the urban rule and which aspects remain beyond its regulatory sphere?

_Is it possible that the aspects left outside the regulatory sphere are nevertheless covered by other urban rules?

_How strict are the regulations imposed by the respective urban rule?

_Might the urban rule produce other effects in its regulatory sphere, distinct from those explicitly formulated by the urban planners?

Density

One of the challenges that urban planners must frequently meet is ensuring the optimal intensity of space use. Yet how can we approximate intensity? By measuring densities. In principle, density is the ratio between the number of elements within a space and the surface of the space in which they are located.

> The concept of density in urbanism is frequently used to describe the relationship between a given area and the number of certain entities in that area. (Berghauser Pont & Haupt, 2009, p. 15)

Over the course of time, the calculation of densities has been used for various purposes (Berghauser Pont & Haupt, 2009):

_To understand, analyse and diagnose the functioning of human settlements;

_To ensure particular qualities of space, which we know to be guaranteed if some maximal imposed densities are observed;

_To justify the development of compact human settlements. A city is considered sustainable only if a series of minimal densities are observed, thus making viable the functioning of collective amenities like transport and communication networks, water and sewerage, public, administrative, teaching and education centres, as well as health and recreation services.

At present, density has two major functions, in urban practice:

> It is important to make a distinction between urban density used to describe a built environment (descriptive use) and urban density used as a norm in the process of planning and designing the city (prescriptive, or normative, use). (Berghauser Pont & Haupt, 2009, p. 15)

Depending on the aim of the project you work on, you can calculate several types of density. For example, the number of inhabitants per hectare or per square kilometre, the number of households per hectare or the proportion of a plot of land that is occupied by a building. Density is a very useful instrument in design and planning, yet to use it correctly you must pay attention to several aspects (Berghauser Pont & Haupt, 2009):

_Density value differs depending on the surface on which it is calculated. Thus, you must carefully choose the boundaries of the space for which you do the calculation. The greater the surface whose density we calculate, the more unbuilt spaces it will include such as water bodies, green spaces, or roads. The density will be lower as a result;

_An average density does not mean that the entire surface for which the calculation was made has the same density. In other words, the elements whose density was calculated are not necessarily evenly distributed within space;

_The same density can be obtained by starting from elements with very different spatial characteristics;

> One of the problems of defining density in operational terms is the relatively weak relationship between density and building type. The same density can be obtained with radically different building types, and the same type can be used to obtain different densities. (Lonzano, 1990, p. 325, as cited in Berghauser Pont & Haupt, 2009, p. 17)

_The physical density of the elements distributed within a space and the density perceived by the people who use that space are not one and the same. People perceive the density of the surrounding elements differently, depending on the culture they belong to and their prior experience. A provincial town will be perceived as more crowded by the resident of a sparse mountain village than by a city dweller.

We may add an additional observation here. When comparing densities, we need to make sure that we use the same surface units in the comparison. If the data we work with are related to different units, they need to be processed and converted to the same measurement unit before the comparison is made.

The most useful control questions are the following:

_How do I choose the density definition that is appropriate for developing the project?

_What is the relationship between density and space quality? What concepts can help us understand it better?

_What influences our perception of density?

IMPACT

We believe we have convinced you by now that the problem which the project solves needs to bring with it a dedicated urban planning approach. Nevertheless, skilful and systematic thinking can accomplish various objectives:

_Either specific objectives such as increasing the quality of a public space, facilitating access to a place, providing passage over an obstacle (road, water stream, precipice, etc.) or improving the safety of a space;

_Or complex objectives such as the balanced development of a human settlement or of a region, equitable access to high-performing collective amenities, improvement of life quality, poverty reduction, mitigation of climate change effects, balancing the need for development with the need to protect natural resources.

Since the problems that require an urban planning method are derived from several fields, the effects of such an approach will also inevitably be felt in several fields, as can be easily seen from the examples above.

Yet, the specificity of the urban planning approach consists in ensuring negotiation and balance between private and public, as well as between individual and collective interests, regardless of the time interval during which they are in competition.

EXAMPLES

If you want to understand more about how rules and density function as tools in the designer's hand, we invite you to study some project examples.

Somewhat remote from the Romanian urban planning tradition, the ensembles of dwellings built from the 1990s onwards in Holland are, nonetheless, a good starting point. The atlas dedicated to the Vinex programme gathers tens of examples of ensembles of individual and collective dwellings, from 52 Dutch districts (Boeijinga & Mensink, 2008).

Any of these can be an excellent recommendation for documentation. Yet, we consider that an even better idea would be to do a comparative study of as many of the projects as possible. Thus, you can easily observe, inter alia:

_The degrees of freedom that a well-constructed rule can create;

_The effects that a minor change to a rule can actually produce;

_How the variation of density affects the efficiency of space use;

_The relationship between density, other urban indicators, and space quality.

In addition, you can discover how the projects were opened for occupancy and exploited, how they were received on the real estate market and what impact they had on the evolution of the Dutch system of urban planning and design.

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Lehnerer demonstrates, not without humour, how easily a city can be read by starting from the rules that shaped it. Once the features that make up a good rule have been understood, the constant emphasis is on clarifying the mechanism for the functioning of the rule and of its effects. This approach greatly facilitates the understanding of rules as a design instrument. If you want to find out more about urban rules, we recommend you leaf through this book.

Berghauser Pont, M., & Haupt, P. (2009). *Space, Density and Urban Form.* Doctoral thesis.

Gravitating towards density as a working tool of urban planners and architects, Berghauser Pont and Haupt introduce the possible relationships between space and urban shape. This publication explains in detail why the concept of density is essential to design, how and under what circumstances it is applied, its effects on space quality and on the increased efficiency of space use.

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