设计概念
DESIGN IDEAS

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张路峰　译

BASICS

国外高等院校土建学科基础教材（中英文对照）
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序

　　设计是一个很难被系统化或类型化的过程。设计方案是尝试不同途径、分析各种影响的"试错"（trial-and-error）过程的产物，特别是对于初学者，当他们在创意生成与设计领域迈开第一步时更是如此。他们往往有了一点想法，却又发现这些想法很难发展下去，而那些想法经常会引出其他的更有意思的想法。这种灵感与愉悦交织、退却与挫折相伴的过程使他们对设计任务的理解逐渐明确，从而使设计方案得以成型。即使对于那些有大量专业知识和多年工作经验的建筑师，设计过程也大致如此。

　　任何设计都始于对设计概念的追求，即对如何解决设计问题的直觉理解。设计概念是一个漫长旅途的起点，设计师在设计过程中对设计概念进行完善和修正，添加细节，不断地对设计结果进行反思。本书将以此为主题，对设计过程的初始阶段进行探讨，这一阶段对于设计过程和结果的影响和作用是决定性的。本书的目的不仅仅是对各种有效的方法和灵感的来源进行描述，而且要对创造性进行解密。本书的内容旨在鼓励初学者更深一步地去探讨个别的题目与观念。本书的重点并不在于某种特殊的建筑样式或教条化的原理，我们所关注的是一个既简单又复杂的问题：我怎样才能提出一个初始的设计概念？

　　　　　　　　　　　　　　编者：贝尔特·比勒费尔德（Bert Bielefeld）

FOREWORD

Design is a process that is hard to systematize or typologize. Designs are the result of different approaches, influences and a trial-and-error process, especially when students are taking their first steps in the world of concept generation and design. They try something out and often discover that its potential is limited, yet their idea usually leads to new alternatives and interesting paths. This combination of inspiration and joy, of setbacks and frustration, sharpens their understanding of the design assignment, and a design finally takes shape. Even architects who have been working in the profession for a long time and have a great deal of knowledge experience the design process in this way.

Every design begins with a search for an idea or for an intuitive understanding of how an assignment should be solved. This design idea is the start of a long journey on which the designer defines the idea more precisely, modifies it, adds details and repeatedly rejects results. The current book, *Design Ideas*, is confined thematically to the start of this process, which influences and sets the direction of both the path and, often, the results. Its goal is not only to depict a variety of effective approaches and sources of inspiration, but also to show ways to unlock creativity. The contents are meant to encourage students to explore individual topics and concepts in greater depth. The focus has deliberately been shifted away from specific architectural styles and dogmatic principles. What is at issue here is a simple, yet complex, question: how do I come up with an initial idea?

Bert Bielefeld

Editor

Gestalt

• Basic design element

• Body and space

• Order and proportion

• Perception of material

• Societal and socio-cultural references

Town-planning and architectural context

Design

Context

Material and structure

• Material and structure as design element

• Landscape and climatic references

• Responding to user's wishes

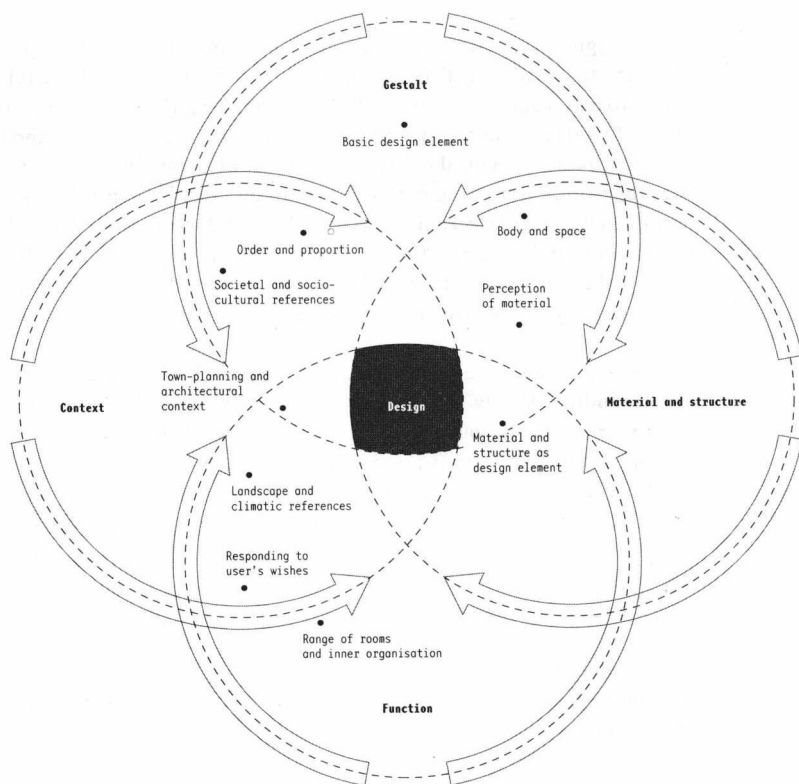• Range of rooms and inner organisation

Function

Fig.1:
Design map

INTRODUCTION

Architecture is not created in a vacuum. It is usually a response to the context in which it becomes constructed reality. Architecture is also expected to perform functions, to provide a concrete solution to an assignment, and to come to life through its design and materials. This is why the parameters set out in the "design map" – context, function, form, materials and structure – are directly related to every architectural design. › Fig. 1 They are also the elements in every design for a building. Furthermore, they hold the most potential when it comes to strategies for developing a design idea.

The following chapters will systematically present the parameters relevant to a design and analyse them with an eye to possible design approaches and concepts. Diverse links to other design-relevant factors will be mapped out to underscore possible points of contact and dependencies. These cross-references illustrate the way individual themes are intertwined and should keep you from getting caught in a dead end in the idea phase. In addition, the chapters will include references to exemplary buildings and more advanced texts on architecture so that you can carry out more detailed studies of the discussed methodologies and their architectural application.

These design parameters form a framework you can use when trying to generate your own ideas. They enable you to tap relevant sources of both information and inspiration in a structured way for your initial design steps. At the very start of the design process, it is often helpful to compile all the known information, conditions and perceptions and to visualize them in a consistent fashion. This exercise often reveals unnoticed connections and focuses, while pointing to existing gaps in knowledge and possible contradictions.

The final section of this book introduces different methods and exercises to help you take the first, and often difficult, "plunge" into the design process. It concentrates on the individual points of contact to your design work.

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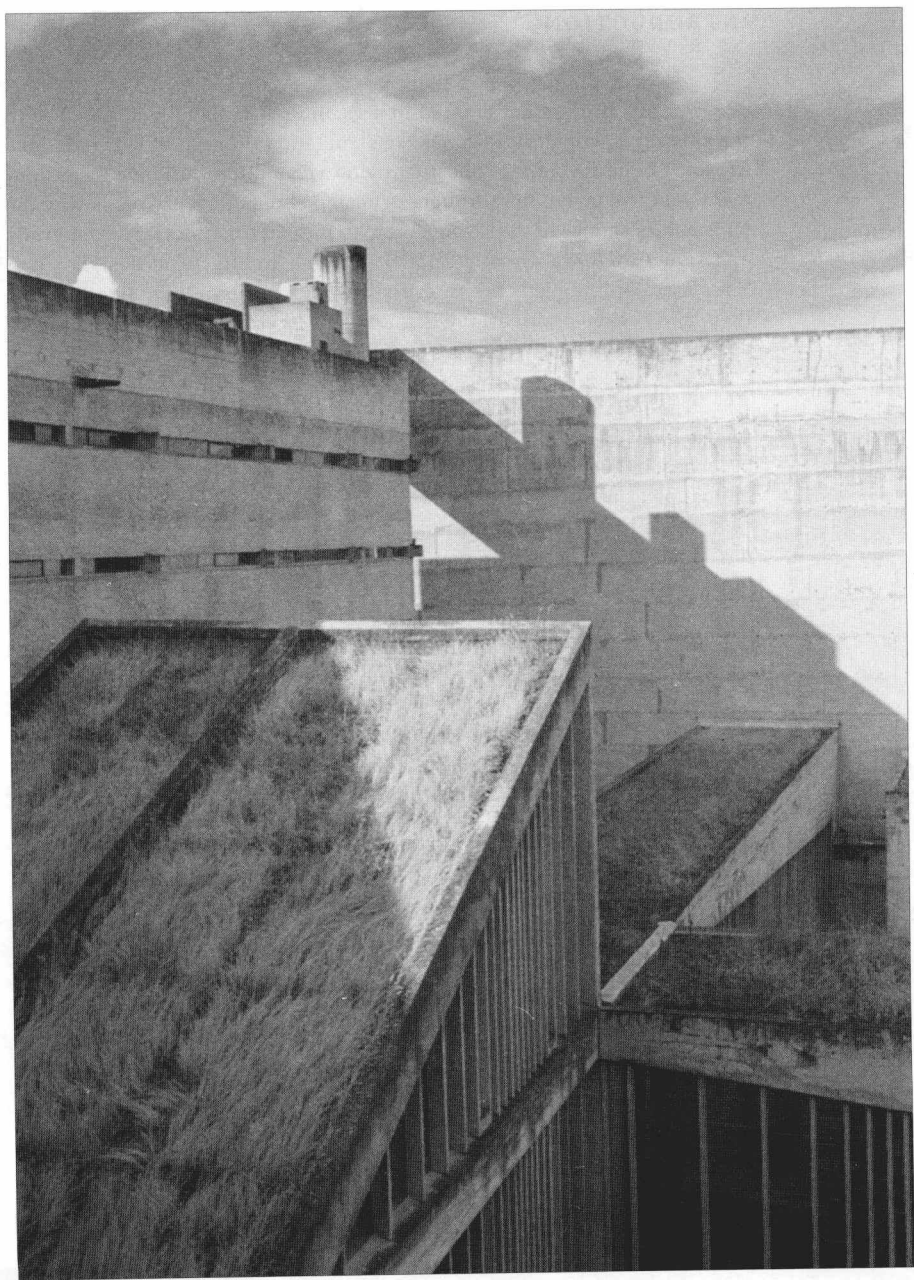
DESIGN BASICS

Design is a complex, often contradictory, non-linear process. This applies as much to the work of experienced architects as to that of novices, since it is the very nature of the beast. Even if the details of the assignment are clear, the goal of the process is unknown. Learning to design involves embarking on a quest for the methods that make it possible to recognize points of contact and dependencies and to understand the reference system of any given assignment. Architects then adapt these factors to architecture using their knowledge, experience, spatial imagination and creativity.

Every design poses new questions that give you the opportunity to gain fresh knowledge and to create a prototype tailored to the assignment. Designing is not only a central element that links everyone in the architectural profession. It is one of the most interesting aspects of the work.

When a new assignment begins, it is more important to ask the right questions than to embark on a hasty search for simple answers that might not do justice to the assignment's complexity. A large number of these questions will emerge from the immediate context of the assignment. An intense examination of the specific conditions of the design or of exemplary works of architecture can therefore be a promising way to approach the assignment. You can choose from a variety of strategies and methods.

A common method involves the detailed study and analysis of the most important parameters:

_ Urban planning context/landscape context
_ History of the site
_ User/utilization requirements
_ Other buildings in similar contexts with similar functions

Linking this information with the results of analyses will help you generate ideas that lead to a concrete design concept. In addition to doing scientific analyses, you can pursue other, more playful methods that offer greater freedom because they entail fewer constraints. › Chapter Arriving at ideas

Another approach involves searching for inspiration or an idea at the very start of the process. The idea can be derived from the individual details

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of the assignment, its requirements, or even from sources of inspiration that bear no direct relation to the assignment. > Chapter Arriving at ideas, Methods and strategies As the work continues, other requirements and levels of design are gradually integrated into the concept. As a result, the design evolves in an ongoing transformation process.

The choice of the right method depends on a person's working style, skills and the concrete assignment. It can differ from design to design. All students should take advantage of the opportunity to try out different approaches and solutions in the course of their studies. The goal is to recognize the strengths and weakness of their individual approaches and to find out which approach suits them best.

Experiences

Personal experiences and perceptions are decisive in the process of generating ideas. With every exercise, you will hone the tools of the design trade and develop a feel for the right path. Working with pens, a computer or a model is only a means to an end. The most important reward of constant practice is on an intellectual level. By leaving well-trodden paths, by trying out new ideas and designing by trial and error, you can tap into new veins of creativity and develop a diverse architectural repertoire. Developing creativity does not end with a university degree. It is a lifelong process that should be engaged in deliberately and intensely.

External influences not directly related to the assignment are also decisive factors in the design process. If the work on a design takes place in a team, ideas can emerge in dialogue with others, with each member of the team contributing to the process, advising others and finding the right path forward. The same holds true for an architect's interaction with a client, or with teachers evaluating assignments at the university. The exchange of ideas can help individuals grow beyond their limits, while the focused external feedback keeps them from throwing in the towel too soon and provides continued impetus. Students learn which methods do or do not help them achieve their objectives, and they benefit from the others' experience. > Chapter Creativity and creativity techniques

Spatial experience of architecture

Built architecture can also provide a wealth of experience. The intense study and physical experience of buildings is also a good way to become acquainted with ideas and methods. > Chapter Arriving at ideas While books introduce students to new worlds and serve as a source of inspiration during their studies, they are often quite selective and unable to present contexts in their totality. Students who take in a building with all their senses will have lasting memories and important experiences. It is essential to visit a building and experience it spatially, observing it from
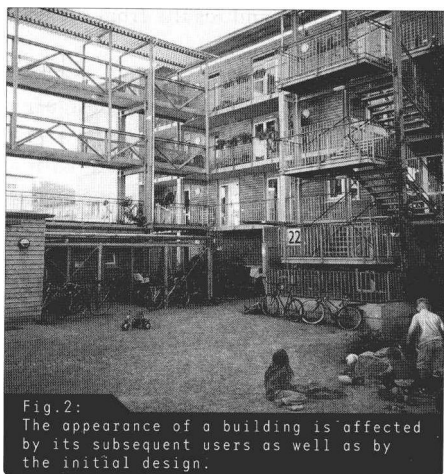
Fig.2:
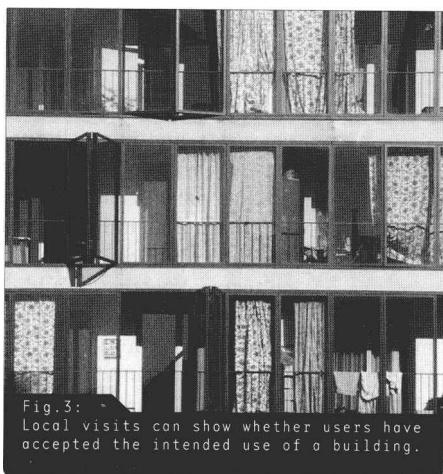The appearance of a building is affected by its subsequent users as well as by the initial design.

Fig.3:
Local visits can show whether users have accepted the intended use of a building.

all sides in its surroundings. It is essential to touch and feel it, and see how people use it. › Fig. 2 This is the only way for them to get a comprehensive idea of the building and gain insight for their own work. Only if they experience a building themselves will it have a sustained effect on their work. › Fig. 3

Developing a perspective on design

The experience you have with design assignments and your reflections on built architecture will gradually help you develop a perspective on how to tackle a design assignment. The term "design perspective" refers to a conscious approach to designing and to the way you adapt designs to constructed reality. This need not involve an eccentric, idiosyncratic style in the sense of a distinct architectural language. Rather, a design
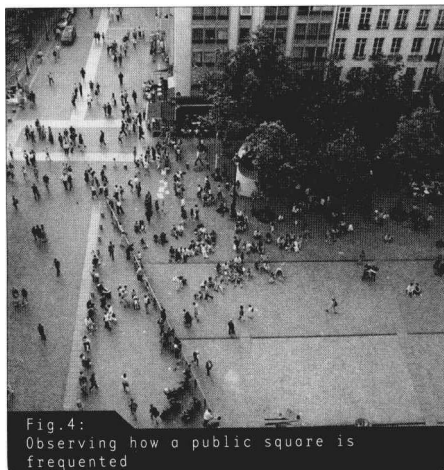
\\ Tip:
You should view as much built architecture as possible. A good way to start is by walking through your home city and carefully observing and analysing buildings on shopping or residential streets. This will give you a feel for the environment. It is equally important to study buildings designed by well-known architects. City tours, brief stops on trips, as well as excursions during or after your studies, all provide good opportunities to view the famous architecture in a region or city.

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perspective is the unifying principle of a work and results from the way you deal with design assignments and projects.

This design perspective is often directly related to the designer's character, and is not limited to interaction with architecture. It can be an expression of an entirely personal worldview and associated with a broader social context or philosophy. Developing a design perspective is thus part of an individual maturation process and cannot be forced or artificially produced. When architectural students begin examining the architectural aesthetics and design perspectives of well-known architects, they are likely to look for role models and methods with which they can identify, and which they find adaptable to their work. They naturally find it helpful to understand the methods and perspectives already employed and to try them out or gain some experience with them in the designs they do at the university. This is the only way to explore recognized and famous worlds of design. But prospective architects should not shackle themselves to any single dogma that restricts their development and confines them to a certain path.

Fig.4:
Observing how a public square is
frequented

Fig.5:
Light moods shift according to the time
of day, and shade in a quiet area

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DESIGNING IN CONTEXT

Each design emerges in a very specific context, whether it be a construction site and its surroundings, or a social and socio-cultural context.

While the process may begin with an examination of the site, the resulting building does not necessarily have to be adapted to surrounding conditions. An individual position or a counter-position can be formulated as an alternative. Even so, it is important to examine the site closely in order to understand the effects of certain decisions. Natural or anthropogenic influences will play a predominate role, depending on whether the site lies in a rural or urban environment.

Local presence In most cases, the intense study of the site and its surroundings is extremely helpful in the search for a design idea. You should attempt to grasp the site three-dimensionally through sketches, measurements and visits, particularly if it has a distinct topography. You should also allow yourself enough time to study views of the surroundings and interaction with the landscape.

Landscape If a broader landscape needs to be considered or the topography
models plays a particularly significant role, it might be helpful to build a landscape model that shows elevations. This can be used to check and optimize the effects that the initial designs have on the surrounding space. It is also important to study possible views on visits to the site and to select an appropriate section of the model. › Fig. 6 If larger contexts are to be portrayed – urban systems, views between buildings etc. – all important relations should be incorporated into the model. › Fig. 7 When preparing designs in an urban environment, you should also conduct spatial analyses of the

\\Tip:
It can be advisable to visit the construction site and observe daily life at different times of the day. Where do pedestrians walk and from what perspective do they view the site? Where are quiet areas located, and where is there street noise? How are atmospheres created, and how does the light change throughout the day (see Figs 4 and 5)?
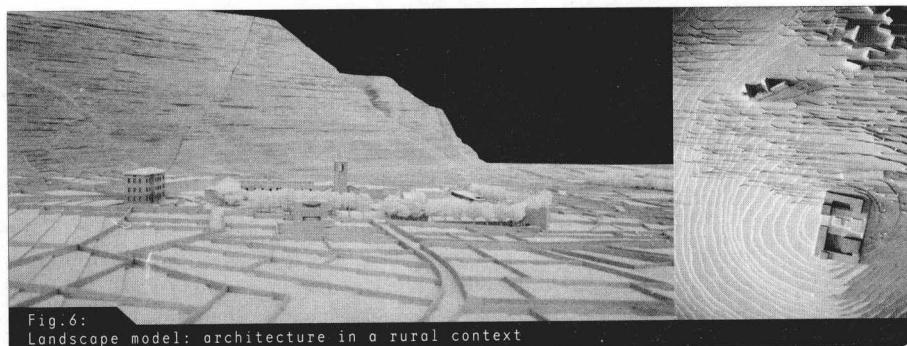
Fig.6:
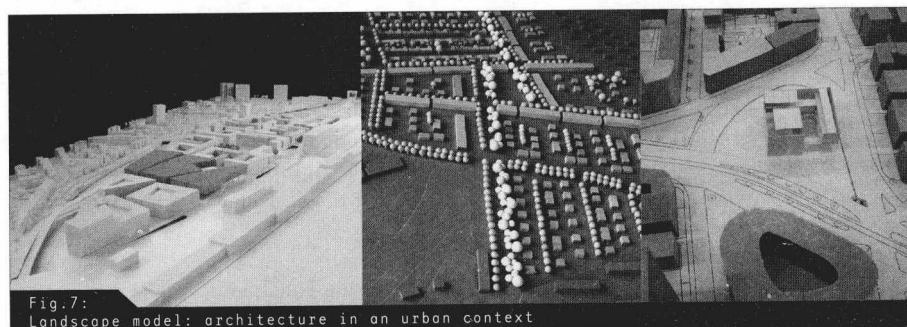Landscape model: architecture in a rural context

Fig.7:
Landscape model: architecture in an urban context

immediate and broader surroundings in order to get a feel for the location. These analyses can take the form of as-built plans, development structures, relations between streets and paths, the design of squares, green areas, and much more. › Fig. 8 In addition to the benefits mentioned above, the landscape model makes it possible to view the site from a distance on all sides and to discover connections that are often invisible from the site itself.

An examination of the location helps you understand the unwritten rules underlying the local situation. Systems, dependencies and relations between elements come into focus and cohere into a structure that can serve as a foundation for a design. The design can be harmoniously integrated into this structure or employ alternative approaches to interpreting it. Likewise, you can deliberately choose a "confrontation" with the surroundings or develop an autonomous design idea. It is essential that the work be based on an organic understanding of the place. If you ultimately seek a confrontation with the surroundings, this will be a conscious choice and should be comprehensible as such.

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