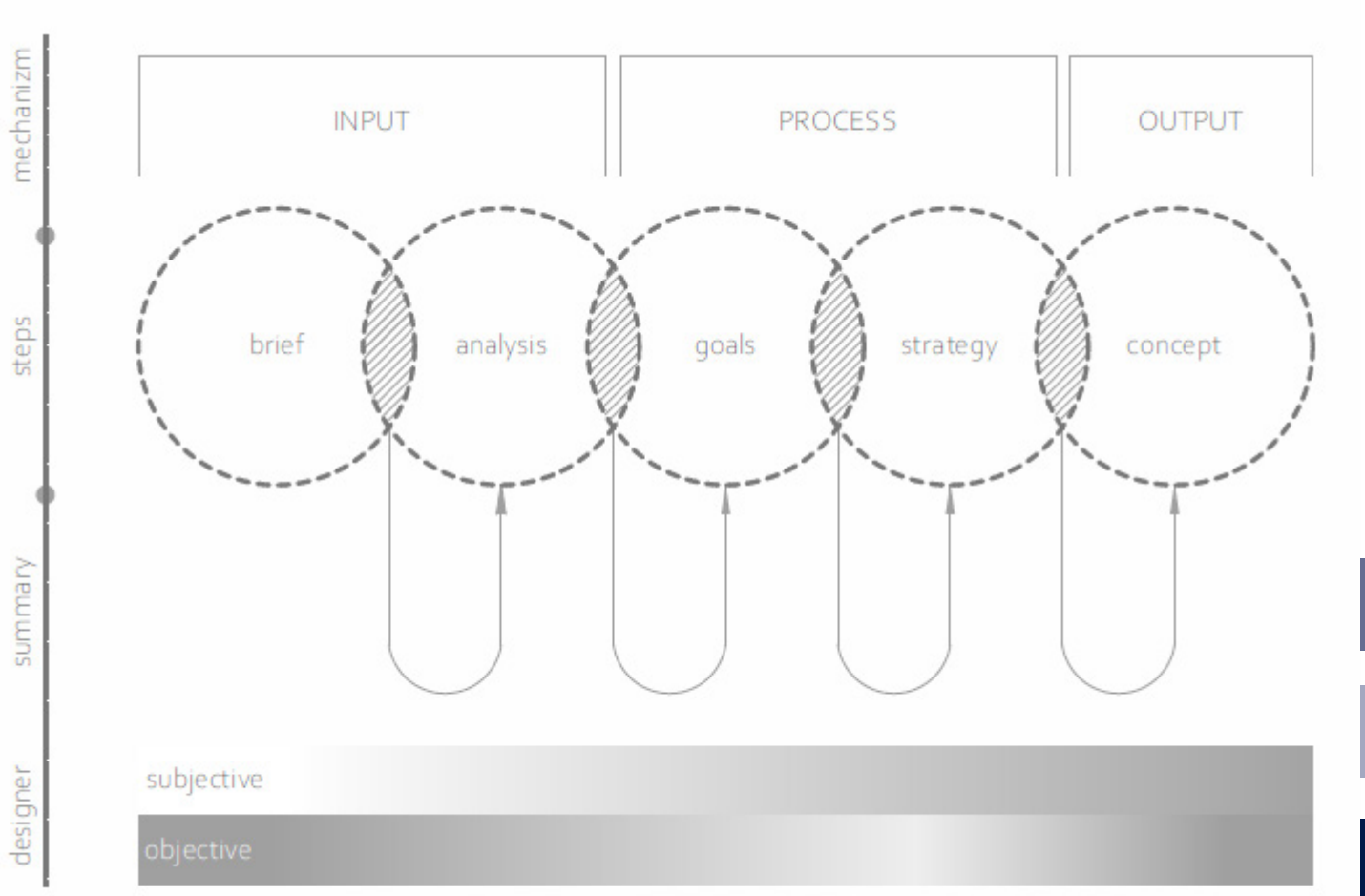
Architectural thinking



Erika Vörös

Architectural thinking

Pécs

2020

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Az Architectural thinking tananyag az EFOP-3.4.3-16-2016-00005 azonosító számú, „Korszerű egyetem a modern városban: Értékközpontúság, nyitottság és befogadó szemlélet egy 21. századi felsőoktatási modellben” című projekt keretében valósul meg.
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Architectural Thinking_

_For who ?
_Why
_About

The research titled "Sustainable Architectural and Urban Design Concepts" is a manual on the process of developing an architectural concept; it facilitates this creative process by breaking it down into well-defined units. It presents the steps of concept formation and their effects on design, the essence of concept formation, and it also gives an insight into the possible applications of these steps. The whole process of concept formation is influenced by the personality of the creator himself; therefore, the following topics will have to be discussed: the behavior of the designer, the importance of designer-responsibility, the impact of objective and subjective, intellectual and emotional approaches on processes, and their place in design.

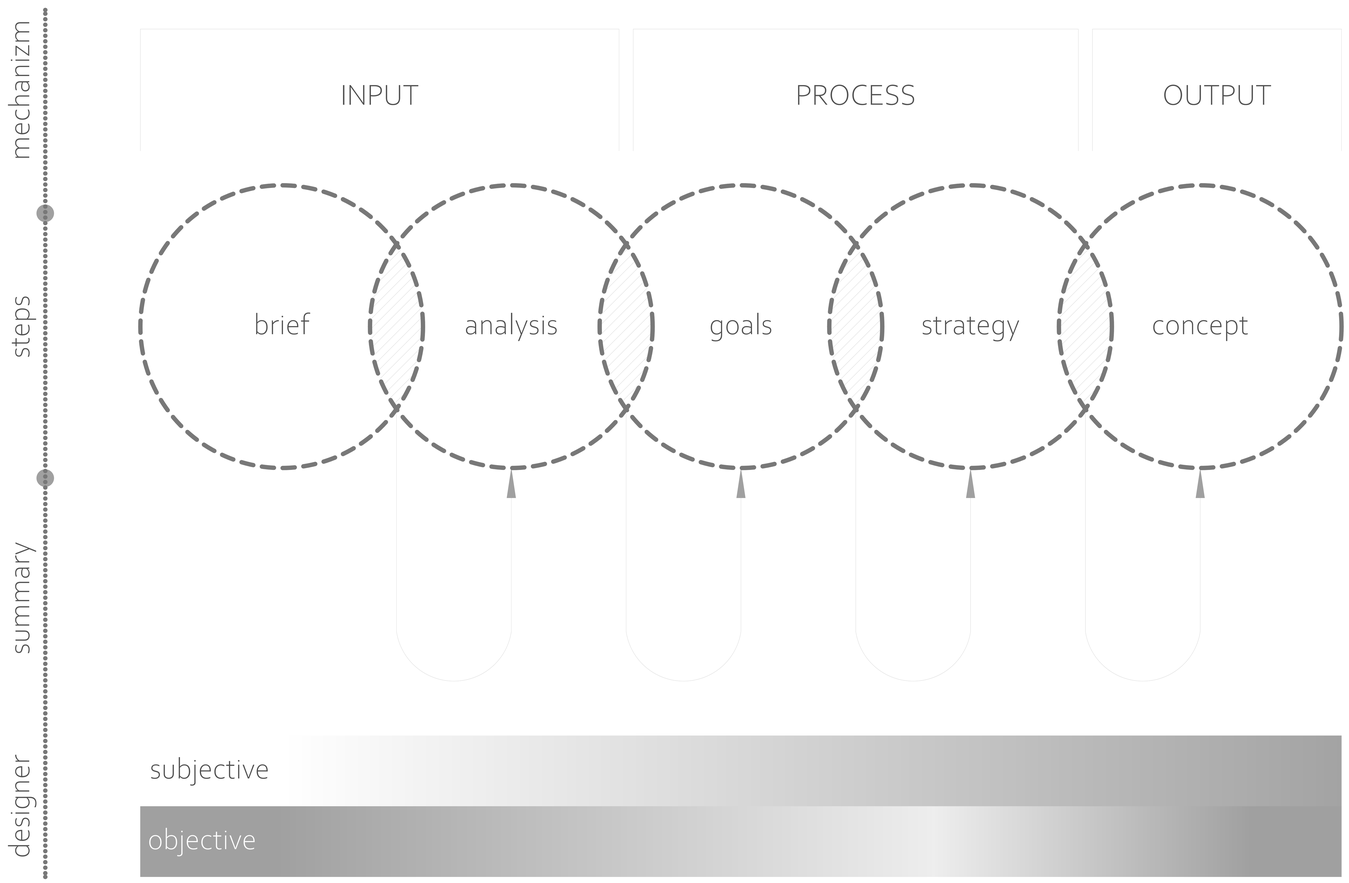
An essential part of concept formation is creative thinking, the development and activation of which is one of the most important qualities of a designer. The material-which was made for first-year BSc, Ba architecture students, - lists the topics and areas that need to be discussed in the concept-forming process in order to create unique, structured buildings with high territorial cohesion and transparent design that can create and generate a positive impact in their cultural environment. You must be able to answer the / how, why, to whom, where, from what, when / planning questions-supported by objective and subjective arguments- that arise in each case. The proper interpretation of these questions can lead to the uniqueness of the plans. You have to think and design on an intellectual and emotional level at the same time. One complements, supports, overwrites, or just keeps the other on the ground. Not only should we look at the given situation, but we should also be able to notice and pinpoint the existing problems as well as our strengths and weaknesses. The designer must become one with these situations and contexts and he must delve deep into them. The purpose of this manual is to demonstrate the essence of concept-forming that is based on causal relationships.

_the essence of concept

The essence of an artistic creation is articulated most clearly in its concept design, which is the end result of a thorough and creative process. It is a multi-step procedure that has a general "upward", forward direction, but it also creates the possibility of stepping back and jumping forward; that is to say, the possibility of rethinking the whole concept. The process of concept formation can be a linearly constructed creative work, but due to its complexity, the system is usually characterized by circularity; meaning that it usually circles back to its previous stages/steps. Consequently, we are talking about a much looser investigative system, where-due to the changes in multivariate input data and criteria-different results, findings may be found or may become relevant in the conception formation of the same work. In terms of the essence of the concept product, the creative work is a procedural process, which can be divided into clear-cut stages in hindsight. However, clarity is not equal to superficial thoughts and ideas. We can feel these to be essential because they provide an essential answer to a problem or suggestion that has been looked at and examined from multiple perspectives.

The most essential part of concept formation is the discovery and understanding of real problems and finding innovative, socially beneficial solutions for them, which will steer the project forward in a positive direction.

parties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summary
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INPUT
PROCESS
OUTPUT
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subjective
objective

_mechanism

The operational mechanism and structure of concept formation consists of three basic parts. In terms of their subject, their essence, the stages of the process are divided into the following steps.

_INPUT

The first step is where all the input data needed for design are defined. Its boundaries, depth, extent and detail depend on the topic, function, location and its social and cultural involvement. The point of the process is that the designer learns to understand and interpret the contexts of the given situation. Based on the data extracted at this step, we can determine what opportunities and constraints surround a given task. This information provides the basis for concept formation and determines the essence of the task to be performed.

_PROCESS

In the planning process, it is much more difficult to define and describe this step, as it is an absolutely specific activity that varies from individual to individual. The goals and visions are born in this phase. They react to the conditions that have arisen from the INPUT data; they are preconceptions about the building and about its essence. The PROCESS chapter contains the priorities, detailed solutions and
alternatives set in the service of the defined goals, which respond to a set of highlighted problems.

_OUTPUT

The last step, where the parts of the concept are put together into a conceptual design, which embodies a holistic solution to all the problems which were described in the PROCESS part. We must formulate a universal, consistent answer that fully meets the established criteria without contradictions.

_steps

The steps are the core elements of the concept formation process, the close interrelationship of which defines a process. This process consists of a set of overlapping elements that provide the basis for the content of the successive parts. The successive steps are causally related to each other. Building on each other, they respond to the findings made in the previous steps, guiding the situation that arises in the first step of the task through several alternatives (sometimes returning to each suggestion several times) to the final solution proposal. The steps consist of 5 elements.

1. brief: task, interpretation of the designer software, getting to know investor needs and expectations.

2. analysis: exploration, mapping, understanding, immersion.

3 objectives: preconceptions about the results to be achieved, what objectives should be achieved based on the analysis in order to achieve positive change.

4. strategy How and with what solutions the defined goals can be achieved. Alternatives, one for each problem area.

5. concept: the ultimate alternative, which is to be able to formulate an innovative, simple answer to the given issues.

_summary

Summary is the final step of each phase in the concept formation process. This step is the core of the material collected on the given topic, which already contains the essential remarks in a selected form. These summaries can be considered clear-cut if they can demonstrate the essence of the given topic by short sentences, keywords and an essential sketch. These summaries, keywords, statements give the essence of the design. The next step of the design process relies on these keywords, sketches, findings.

_designer

The factor that has the greatest impact on the concept-forming process is the designer himself. His mind is the one through which the whole creative process runs, who chooses his own approach to navigate through the given steps. His design approach, sense of responsibility, values, intellectual and emotional intelligence determine the values, depth and relevance of the design. The objective, intellectual and subjective, emotional planes appear with different intensity in each design phase. In the INPUT part of the mechanism, the interpretation of the given task, the definition and overwriting of the design process, the exploration of the perceived and real needs, the scope and depth of the analysis are all individual decisions made by the designer, where objective judgment typically dominates.

The second unit of the operation, PROCESS, is a unique procedural process that takes place in the designer's mind. In this unit, the intellectual and emotional planes work simultaneously, where, in addition to the objective analysis and by relying on it, the creative methodology of the designer significantly depends on his creativity and value system. It is essential that our thinking, analyzing mind be in constant dialogue with our creative mind thus generating balance between the two approaches. Thanks to this balance, we can eliminate the possibility of coming up with plain, uncreative, boring ideas that only look nice but they have no content or depth.

The OUTPUT phase, i.e. the final concept design, is the result of strategies created from the harmony of the intellectual and emotional planes of the PRCESS unit. This really reflects the positive impact of the building on local issues; it turns out here in this phase how viable the concept was and what the essence of the design was. The goal is not to realize all our dreams but to improve. A concept can be said to be sustainable, innovative, or responsible if it finds a versatile, clear, simple solution in a given environment, in a given function, in a given cultural and social context, which provides viable solutions to the issue at hand.

_elements of steps

brief

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_cognition and interpretation of a design program

_what? where? for who? when? how?

_primary optimization of the program

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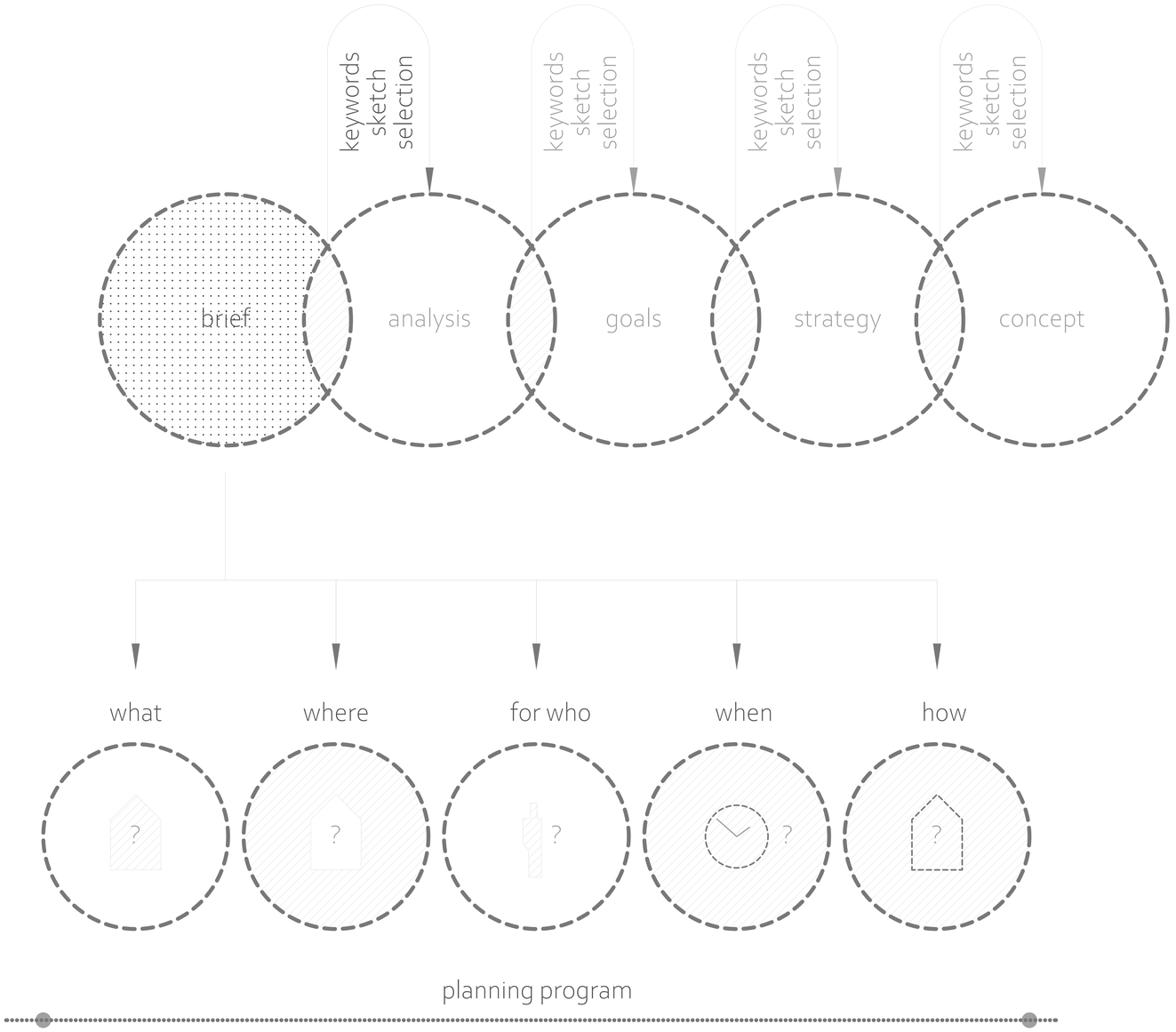
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planning program

The very first step in the design process is the brief, the essence of which is to get to know the client's expectations, to clarify the what, where, to whom, when, how questions. This part is a basic element of the concept formation process, so it is necessary to assess the needs as widely as possible. Responsible architectural thinking is already important at this stage, the designer has a responsibility to his environment, society and the investor to differentiate between real and perceived needs with an optimized design program, which also lays the foundations for sustainable design. Designer objectivity is required when establishing and modifying the design program. According to the level of the initial phase, the installation control of the settlement, the function system and operation of the building, as well as its subjectivity and emotional intelligence must be understood.

The designer-as the specialist responsible for the product and its feasibility-due to his professional experience and insight, is expected not only to execute the client's will, but also to optimize and examine the design program. The intellectual and emotional side of the designer are both engaged in the process but with different intensities, which results in a logically-structured, humanized design program. In many cases, in addition to defining the basic function, the investor gives the designer the opportunity to develop a detailed program, as a result of which the increasing design responsibility requires even more objectivity and investment on the part of the creator. It is essential to create a basis (a step) that, according to the given level, creates a sufficiently well-thought-out, sustainable and thorough set of information for the analysis step that closes the INPUT mechanism.

_What?

Determining the basic function and additional functions, determining the approximate territorial and numerical needs from the point of view of the investor. Designer rationality, humanization.

_Where?

Definition of a design plot or plots from the investor's point of view. The designer should reflect on the possibilities and limitations of the relationship between the given function and the design area based on the installation regulation, the cityscape, the surrounding functions, in accordance with the depth of the given design phase.

_For who?

In many cases, in the case of a design task, the identity of the investor and the user do not match, so it is necessary to know the needs of both sides. In many cases, they do not necessarily match, as different interests are decisive for different parties. If the identity of the investor and the user are the same, the complexity of the formula is also simplified.

_When?

Determining the submission deadline for each phase of the design and the date of the planned execution.

_How?

By getting to know the needs of the investor regarding the quality of the planned building. By finding out the fundamental expectations of the investor.

end of "goals" step: summary / sketches:

Formulation of a design program by answering the what, where? for who? when? how? questions.

analysis

///

_ the information base on which design is based

_data collection: static

_analysis: dynamic

_areas to be examined: context, function, person, reference

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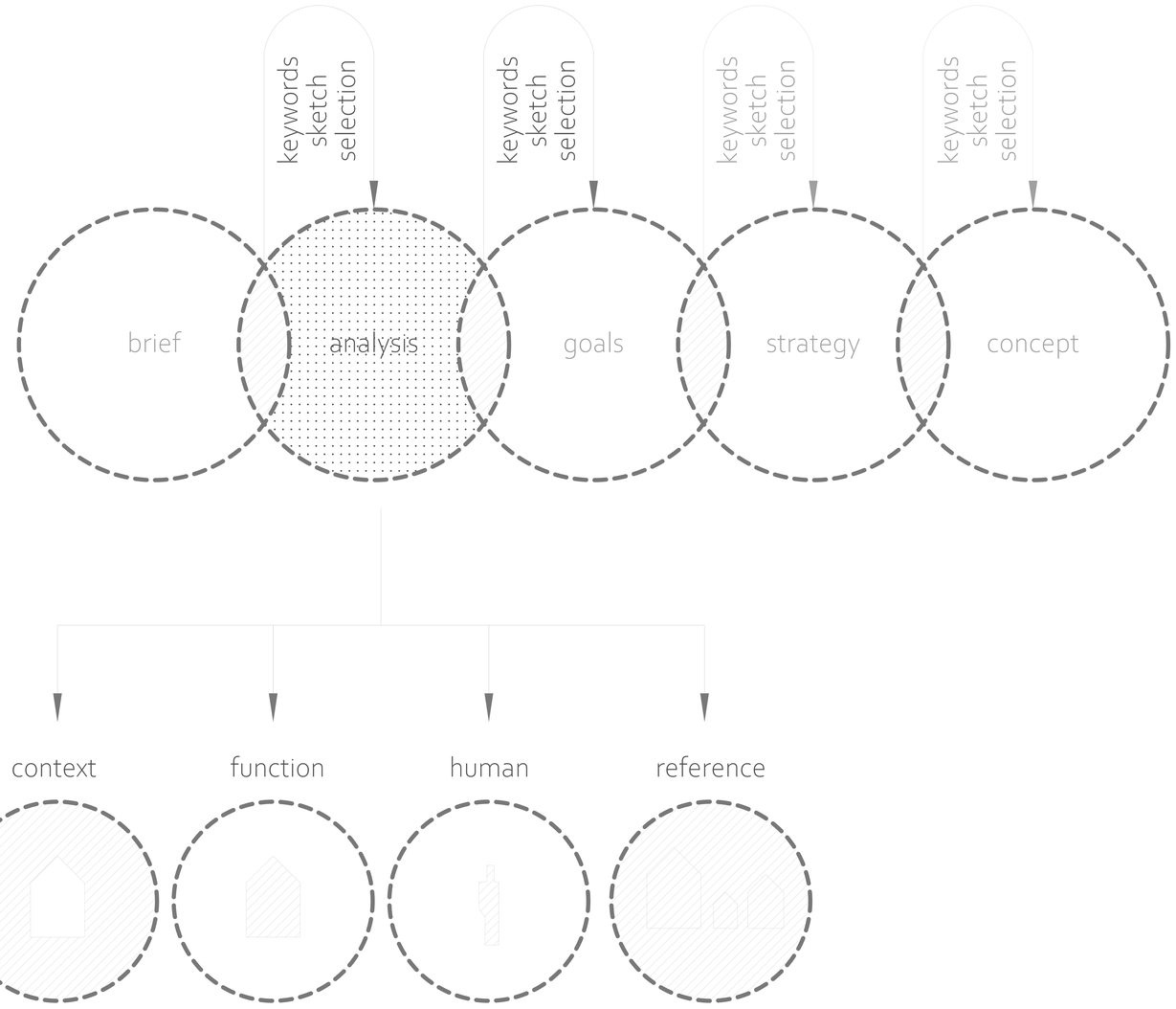
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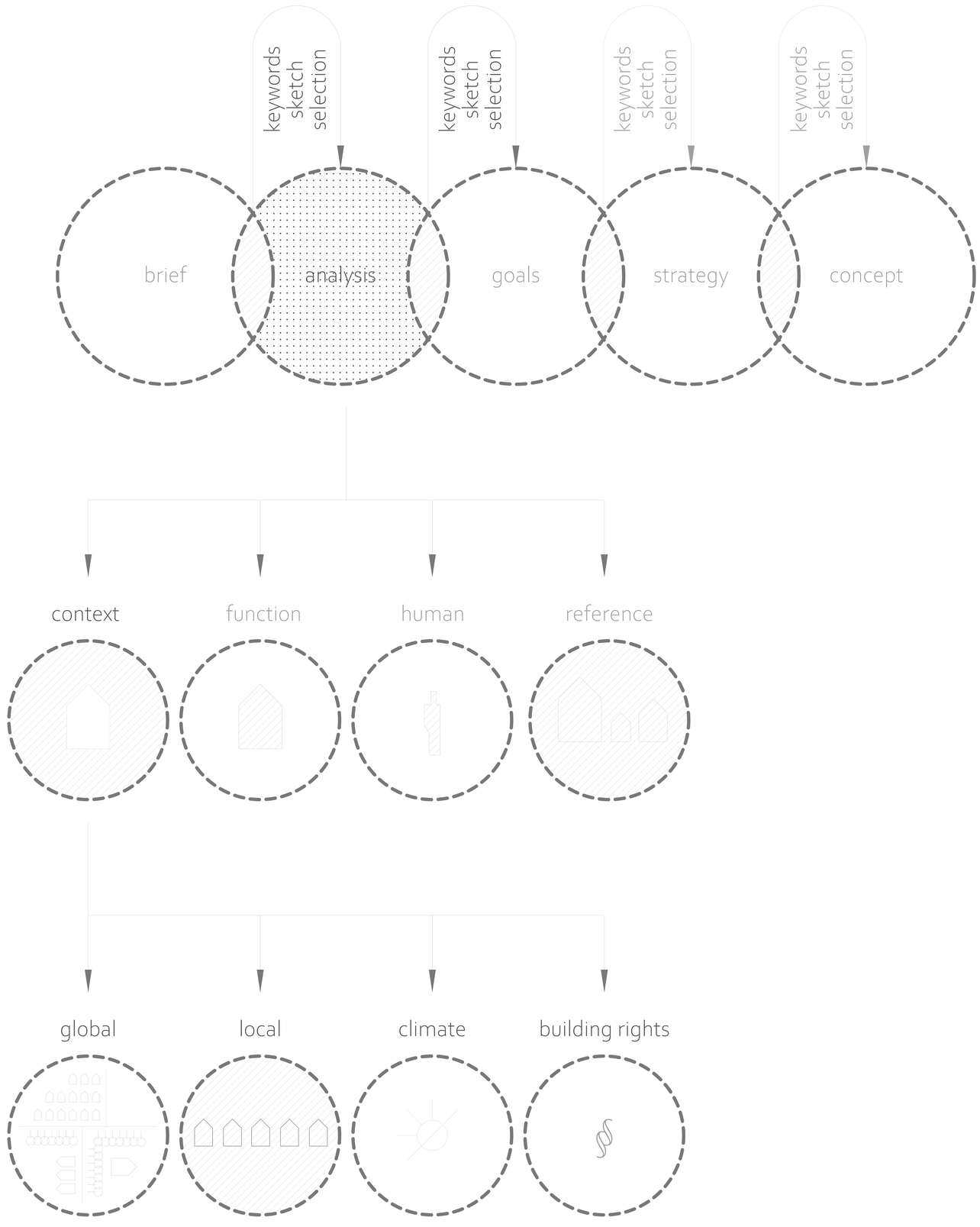
The second step in the design process is analysis, which is also the final element of the INPUT part. In this research chapter, we need to obtain all the information about the given area, function, users that may have an impact on the design process. For the purpose of inspiration and interpretation, we should search for reference buildings and examine and understand them from a given point of view. The analysis part is based on the summary of the brief chapter performed earlier, it is the essence of the knowledge and information base acquired there. The keywords and essential sketches found in the brief are the elements we can rely on. It essentially outlined what the design program was like (what, where, to whom, when, how), so at this stage the acquired knowledge should be deepened. In the process of concept formation, this is the stepping stone where the objective designer attitude has a more significant impact. It is an analyzing, examining, researching, collecting and selecting process, which makes us understand the given design situation and program in depth and in context. Thanks to this knowledge and processed set of data, we will be able to design a building or create a piece of art that understands and responds to the given territorial conditions and at the same time satisfies the cultural and social needs.

This research unit is a rather diverse, situational analysis which processes a large amount of data, depending on the topic. In connection with the given design task, it is not only the accumulation and collection of factual data that is important, but also the performance of analytical tests in the field. Thus, there will be both static and dynamic test elements. Static elements are factual data about an area, users, function, while dynamic parts are information obtained as a result of an investigation process. Both provide decisive data for the given task. The selection and ranking of these data are parts of the process. In this case, the end of the analysis stage is closed by a summary part, which summarizes the essence of the chapter in keywords and sketches. The essence of research and analysis is to create the basis for concept formation. The more extensively we examine (within the limits of reasonable relevance), the broader and more secure the basis for the process and steps of concept formation will become. This summary will build on the next section, the "goals" step.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///

_ from large contexts to details

_explaining, interpreting and impact assessment of built and unbuilt environmental relationships in relation to the design area

_global, local, climate, building rights

///

_global, local, climate, building rights

The context part is the first element of the analysis step. In this chapter, the connections between the built and unbuilt parts of the environment that can have an impact on the further design process should be explored. Using static and dynamic test methods, the operational system of the area is revealed, which serves as an answer to the questions of the developed conditions. It is expedient to start the examination of the design area, moving from the general to the specific, so by exploring and understanding the large correlations, the smaller, unique cases can also be interpreted. In this chapter, global and then local territorial investigations should be carried out, the relevant climatic characteristics of the area should be identified and the current building regulations and urban development plans should be understood.

_global:

To examine the global relationships, an extended area is analyzed beyond the boundaries of the design area. The spatial delimitation of this enlarged zone-in which it is still worth looking for global contexts for the planning area-depends on the complexity of the spatial systems, the function and the social and cultural resources. Due to the diversity of the analysis, it is also likely that each aspect of the study defines different areas for exploring global relationships.

parts of global territorial investigations:

correlations of territorial units:
_connection system of existing land use units
_connections of development areas
_green surface systems
area-specific shape and material use
transport system:
_car
_public transport
_cyclist
_pedestrian
_road network systems
social, cultural, historical investigations:
_settlement and social development history
_social composition
_economic situation
_cultural needs

_ local:

The territorial boundary of local investigations is located within the global investigation zone, more closely related to the design area. The relationship between the delimitation of global and local areas may vary as research topics. The local investigation zone is located within the boundaries of the global zone and builds on its overall context. In this stage of the analysis, we already explore much more detailed, more organically related contexts related to the design area. These are the results that have a real impact on the location, shape, function, use of materials and appearance of the building. It is important to understand the form, function and material use relationships typical to the area.

parts of local area investigation:

environmental contexts of the design area:
_Installation test (site plan)
_street image inspection (sectional)
_function form, material use
_green surface systems
_function test
_definition of ownership
transport system:
car
public transport
cyclist
pedestrian
parking

_climate:

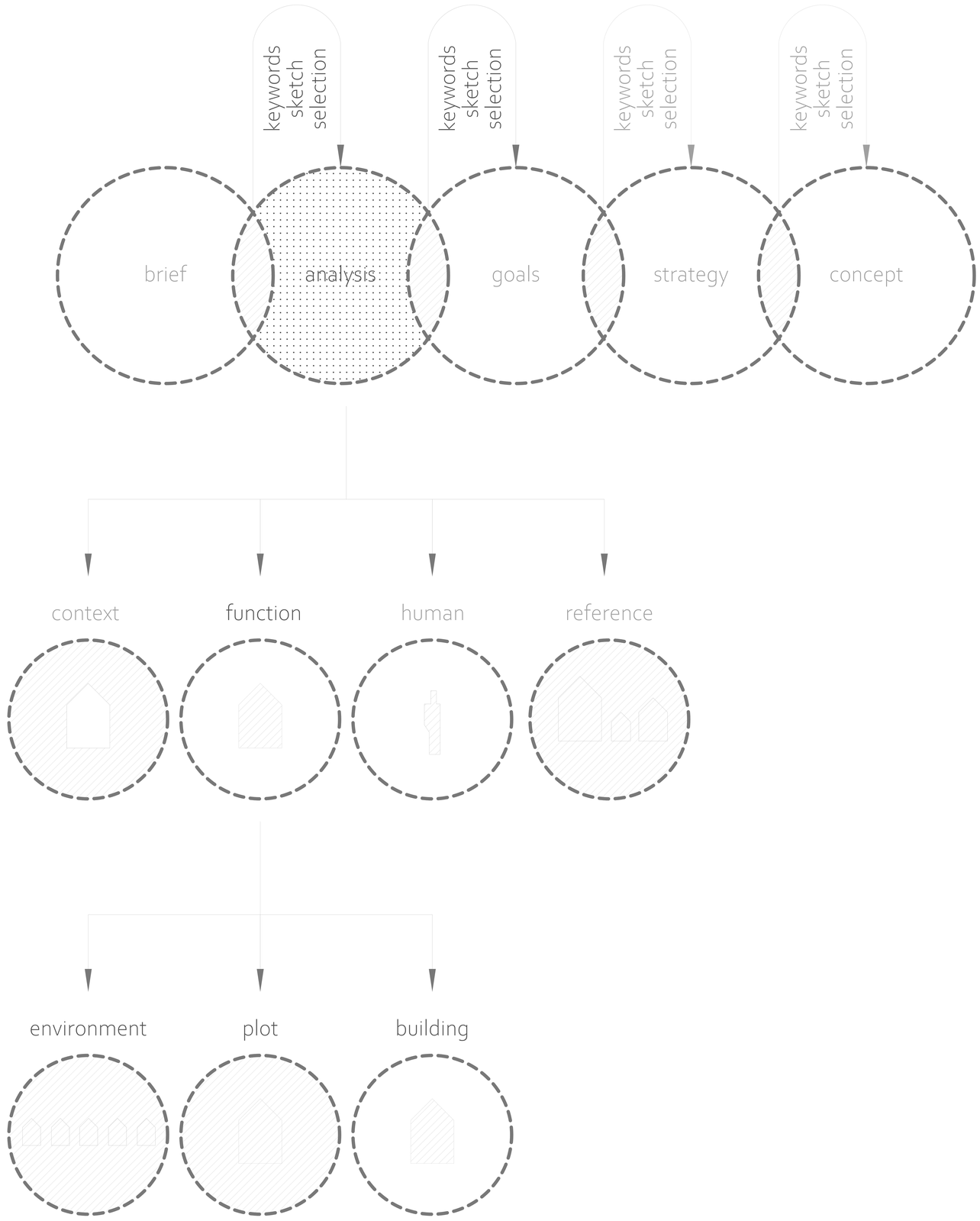
A key part of the test unit of the design process is the analysis of the climate specificity of the area. The results obtained here have a significant influence on the external appearance, material use and structural dimensions and layers of the building to be designed. There can also be large differences within the same climate system. It is not enough to determine the general climatic properties, it is necessary to examine them accurately in relation to the design area, as the different natural conditions (topography, waters, vegetation) have a significant influencing role.

_ building rights:

This topic of the context study section defines the legal environment in which the design area is located, within which legal framework the building must comply. These laws determine the relationship of the building to the plot, prescribe the maximum and minimum parameters of the building and also determine the functions that can be installed. These legal rules ensure, to a certain extent, the uniform appearance and operation of the urban fabric, giving priority to the satisfaction of social and cultural needs. The plan must be placed in this "limited", complex context, which requires the interpretation and understanding of building regulations.

parts of climatic investigations:

_temperature conditions
_seasonal sun exposure test
_ precipitation quantity and quality
_wind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environment
plot
building

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///

_ from large contexts to details

_examination of design function, interpretation of its connections from different points of view

_environment + function:

_plot + function:

_building + function:

///

function + environment / function + plot / function + building

The second element of the analysis step is the topic of functional analysis. In this chapter, the design function comes into focus, which we study from multiple perspectives and distances. By continuously reducing the study distance, we move from understanding the larger functional relationships to understanding the deeper relationship system of the building. In this phase of analysis, both static and dynamic test methods must be applied in order to acquire as diverse and diverse a knowledge base as possible. Following the analyzes, a paper should be compiled that draws local conclusions by examining real conditions and operating systems. Stable preconceptions can later be established for these explored relationship systems. The functional analysis part is a multi-level operation that results in a complex, overlapping research system. In this system, we examine various aspects of the function, such as the function and its environment, the function and the design area, and the relationships between the function and the building.

_function + environment:

In this initial stage of the examination of functional relations and relational systems, it is worthwhile to look further back and interpret the established states and operational relations in a broader context. With regard to the design function, the broader environmental delimitation of the studied area is a complex issue. It is not possible to determine the general size of an exact formula, since all elements of the formula are variables (function, fabric, relationship systems), different rules apply in each case. The test area must be defined in such a way that relevant functional and system contexts can be deduced from the design function. Depending on this, the size of the analysis zone varies widely, from a very narrow area (from the immediate vicinity of the design area) to larger areas (settlement, part of a settlement, district).

function + parts of environment tests:

_functional analysis of the environment:
analysis of constant units
exploring connections
possibilities for development
_effects of the function to be planned on the wider environment:
incompatibilities
generative co-functions

_function + plot:

The middle step of the functional impact assessment from a territorial point of view is the analysis of the design area. After the environmental analysis described in the previous chapter, we can focus on the effects of the planned function on the site and its immediate environment (adjacent plots, functions). In this phase, the areas within the design plot that have some significant characteristics for the function to be installed must be selected on a scale. In order to establish an organic connection with the plot of the function and its immediate environment, a research part is made that sheds light on the needs of the function in relation to the plot and vice versa.

function + plot tests parts:

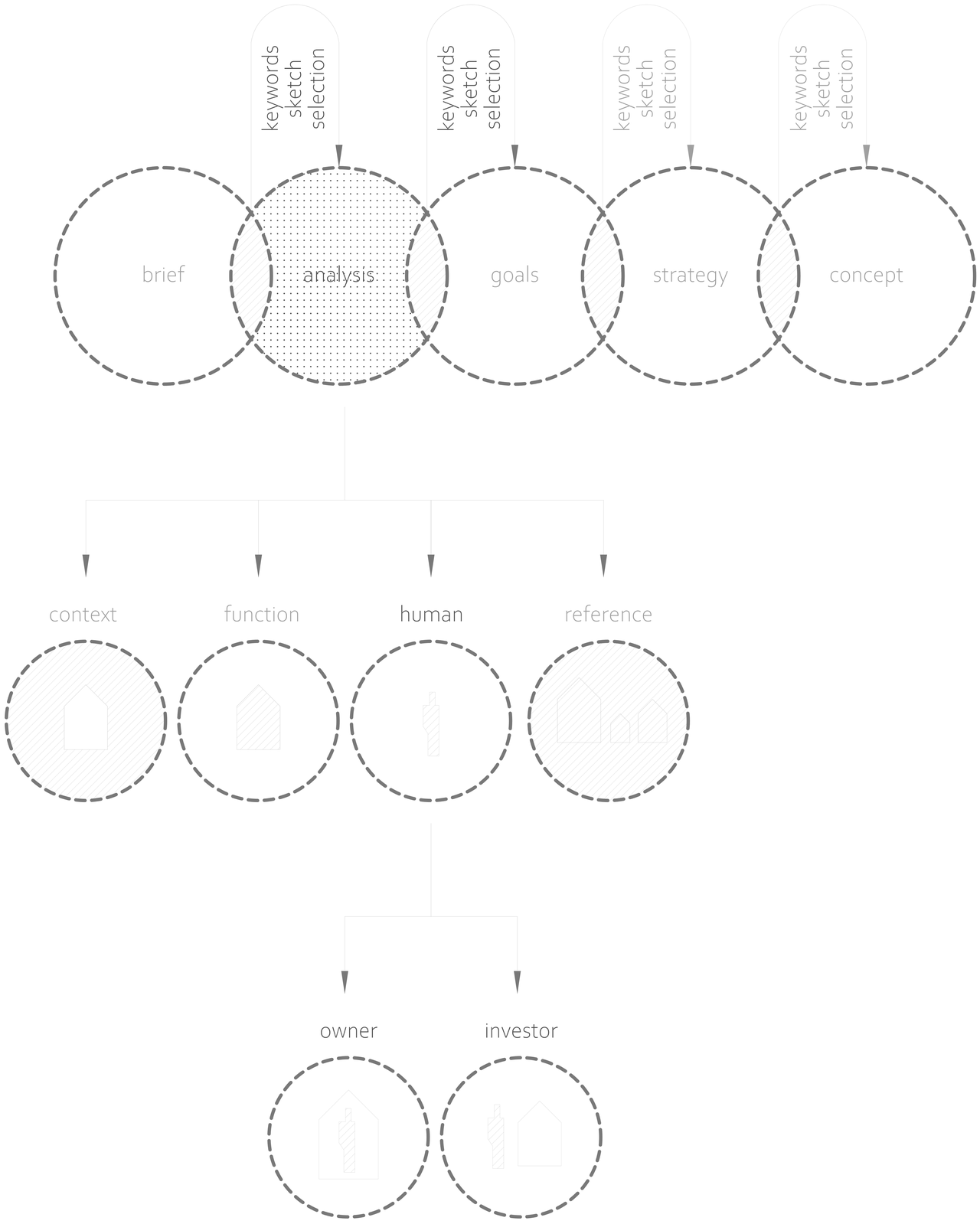
_examination of adjacent buildings and plots
place of installation
specific shape and material use
_constant units of the design area:
buildings
valuable vegetation
natural resources
public relations
orientation
_ Territorial boundaries within the plot:
preferred areas
not to be installed areas

_function + building:

By mapping the system of relations within the building of the design function, we understand the operational connections and the relationship between the major and minor functions. In addition to the operating diagram, you need to find out what supporting and auxiliary functions are needed in addition to the main function, and what co-functions can enter the design program. Determining their approximate size and relational system is essential information for primary conceptual ideas and sketches. The other (more important) two steps of the function analysis (plot, building) determine data after the performed analyzes, which have a decisive force in terms of the location, formation and appearance of the building.

function + parts of building tests:

_definition of supporting-, auxiliary-, and co-functions
approximate dimensions
context of relations
horizontal and vertical relations
_its detailed connection to the function plot
entrances
major openings
transitional spaces
the relationship of interior to exterior
_functional emphases
_ representational emphases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_ who is the building designed for, who will be the users?

_interpret user and investor needs

///

owner / investor

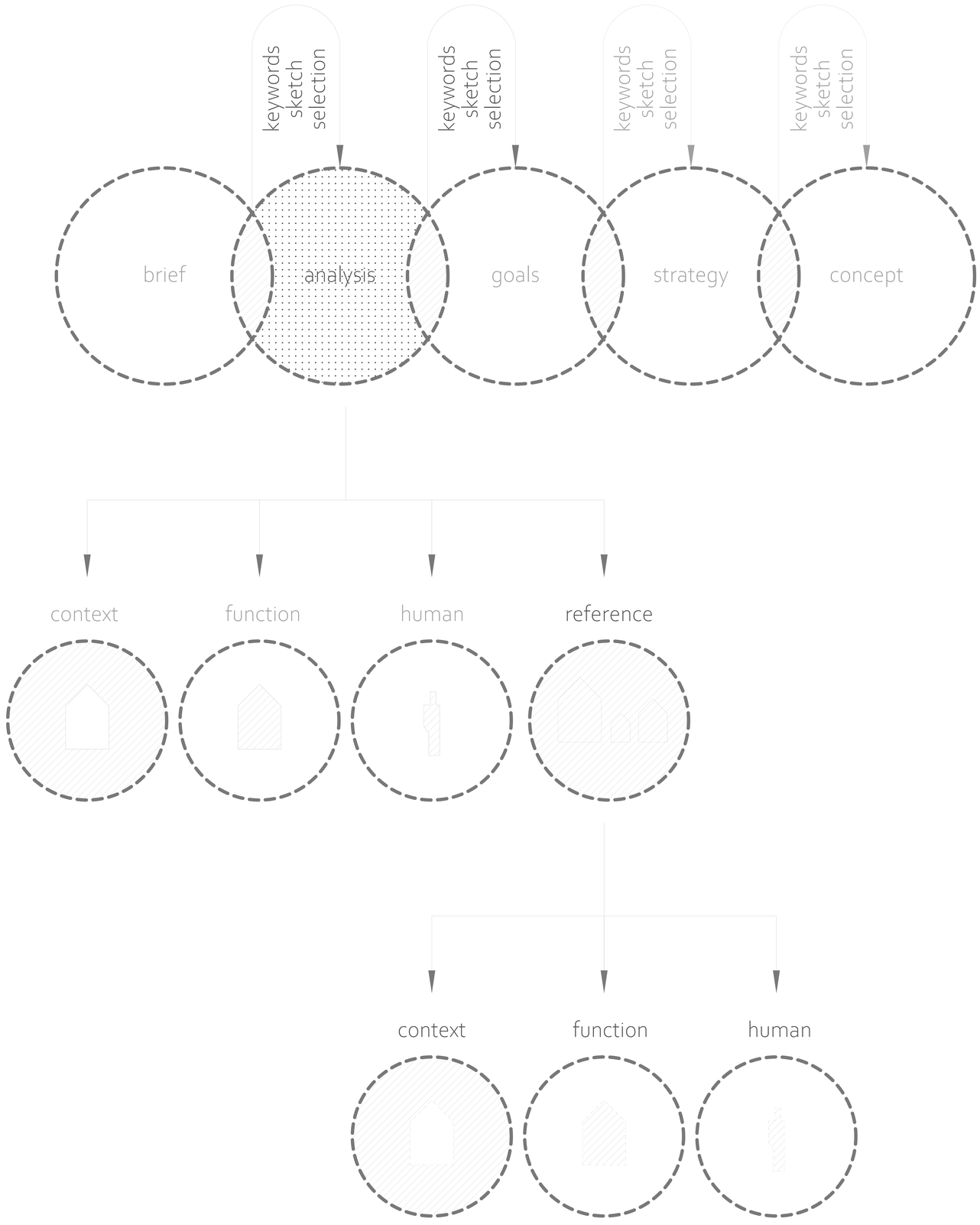
The identity of the investor and the user is a determining element in the design process Plans are made for orders, so it is important to identify the needs accurately. In this chapter of the analysis steps, the ability to identify and empathize is essential, it requires the designer to immerse himself in the world of the customer. The customer has to have a certain level of vision as to what the end product should look like; so that the designer can start working. In this phase, the designer must, in addition to empathy, rise above the given situation and form an opinion, distinguishing between perceived and real needs. The designer must simultaneously accept and coordinate, refine investor needs in order to create a viable plan that meets real needs. The complexity of the situation is exacerbated by the fact that customer ideas and needs are uncertain and therefore may change during concept formation. The designer must be flexible to be able to handle this often dynamically changing set of conditions.

_owner

From the point of view of the analysis, a simpler, clearer analysis is needed when the person of the investor is also the owner. In this situation, we can get to know the needs of the actual user, however, this does not mean that the analysis-in this system of conditions-ends with the mapping of the needs of the future user. It is necessary to assess the user's expectations and understand their importance, and by considering them, the perceived and real needs will become definable. The effects of each need must be projected on the design, preconceptions must be set up, causal relationships must be presented so that the owner can consider and then decide what results the satisfaction of his needs will entail.

_investor

At this stage, a more complex issue needs to be addressed. In this case, the investor is the customer, so it is his needs that are clearly articulated to the designer. In this case, less specific information is available about the person (s), opinion and needs of the user (s). It is the responsibility of the designer to go beyond the investor's vision, to empathize with the situation of the future owners and to form a preconception about their expected needs. The designer must represent the interests of the future owners and the needs of the investor as well (the two might contradict). In most cases, the needs of a for-profit investor need to be reassessed, the designer has to make proposals to the investor, so that he can develop a concept that strikes a balance between the needs of the investor and the owner.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_ inspiration, attitude formation

_understanding architectural mindsets, and designer responses

///

context / function / person

The last part of the analysis chapter is to find suitable reference works and to examine them. Reference buildings and exemplary works are important inspiration and attitude-forming elements of a design task. The task, which at first glance seems simple, actually requires serious research work and thorough analysis from the designer.

We need to know where to find and how to look for exemplary buildings and works, from which we can learn and gain experience. In order to find a suitable reference building or work, try to use books, specialist newspapers or web pages that are also preferred and accepted by professionals. The materials collected at such sites have already undergone some sort of sorting, but their further review is still necessary.

The reference buildings found can be used in many ways, but it is important to stipulate that examining exemplary works does not mean copying them. In this chapter, we need to examine and analyze the work of another designer, the same way we would when forming the concept of a self-designed building. By examining the building, reading the designer's technical description, and with the interpretation of the concept, the "to whom, what, where" questions must be answered. Then, with these data, the site plan, floor plans, sections, facades, spatial relationships must be interpreted. We need to figure out the whys and wherefores of the building, and find out how to understand the behavior of the designer in a given situation. If we understand why the building reacted in one way or another to certain situations, we can interpret the designer's line of thought. An analytical attitude that can provide real help and inspiration in the concept-forming process. Understanding the design behavior of other architects, creative people. To do this, we also need to choose reference buildings that are easy to analyse, have strong conceptual ideas that have not lost their essence when the building was implemented.

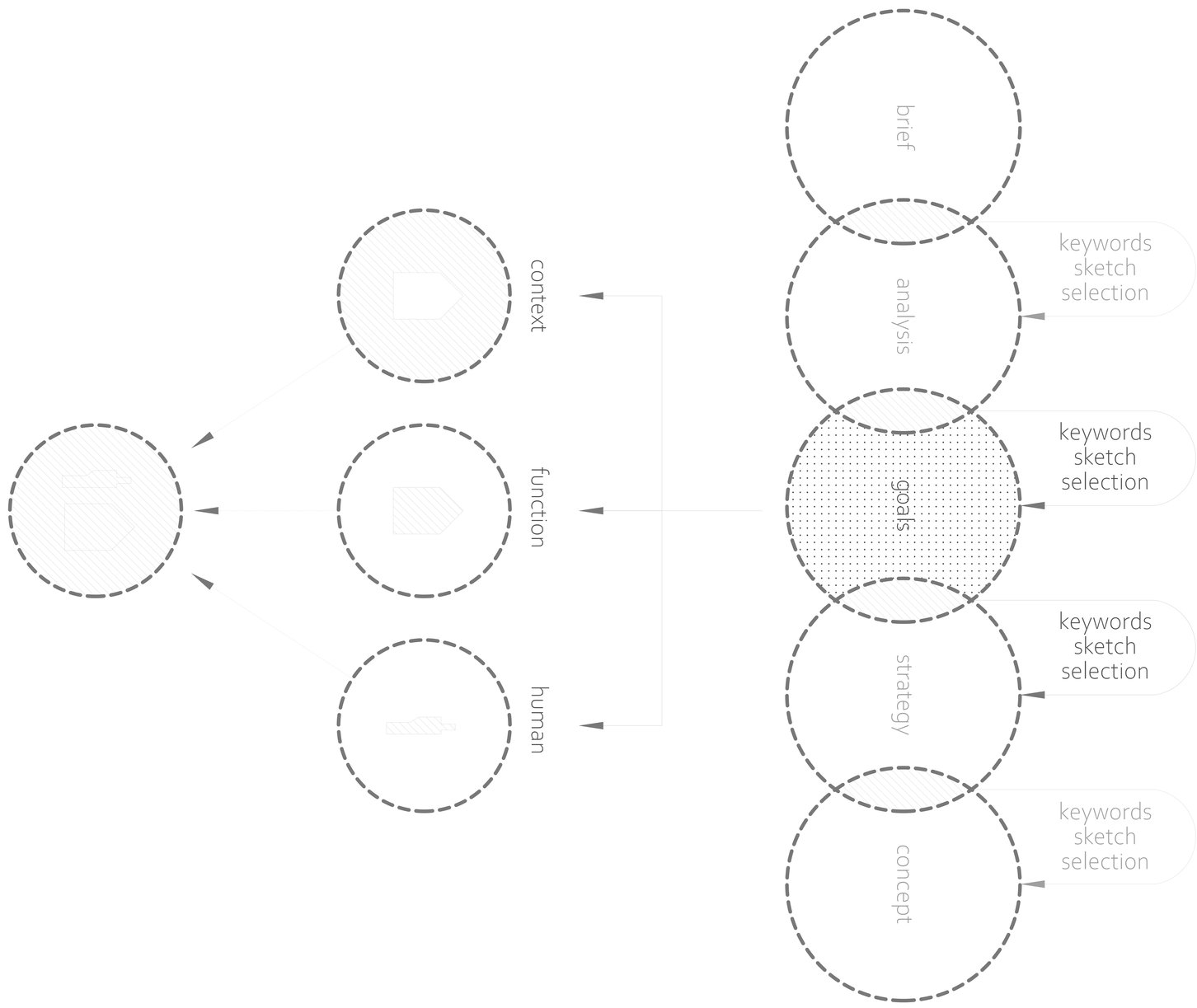
We can choose reference buildings based on several criteria, there is rare to find one single building that has all the features we may need for a given design program. In general, when researching one should follow three main aspects; the context, the function and the personality of the customer, i.e. the social, cultural aspect.

The aim of the analysis of the function-based reference work is to interpret and understand the floor plans. The floor plan features, relational systems and functional hierarchy become understandable by examining the functional relationships of the building. However, this requires you not only to look at the building but also to see it for what it is and analyze it. The floor plan correlations must be examined not only individually but also in a system, built on top of each other, since in addition to the horizontal connections, vertical relations are also present.

Finding examples based on certain criteria is a complex task, with several aspects to focus on and keep in mind. It is worthwhile to delimit larger groups such as built environment or natural environment, terrain conditions, connection system of spatial units, characteristic forms and material use, climatic factors. In the case of these themes, architectural ideas and intuitive connections must be explored, which will provide the spatial coherence and uniqueness of the building.

A third important area is the social, cultural values defined by the customer, and the findings of the owner. This is perhaps the most difficult and less tangible aspect of searching for reference resources. There are many special cases where the defining elements of the concept formation are the social and cultural contexts, which can be read from the operation and appearance of the buildings, but their understanding and interpretation requires a thorough examination and experience.
In addition to these main guidelines, many other aspects can form the basis of the research of reference works. Even in the concept formation phase, unique determinants may emerge that have a significant impact on the process, so the search can be expanded as needed. Areas-that typically come forward after the concept formation phase-may come to the fore such as specific building structures, individual building materials, special energy aspects.

end of "analysis" step: summary / sketches:
Context, function, main findings, keywords, sketches-in which the essence of the three topics, their positive and negative properties, their given situation is represented-also appear in this step.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_ goals based on exploratory chapters

_what the building needs to articulate in a given situation,

what is the meaning of the building

_priority and flexibility of goals

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The concept formation process mechanism can be divided into three main units, which are the INPUT, PROCESS, and OUTPUT sections. From these three, we had a closer look at the elements of the INPUT section in the previous chapters, the parts that need to be touched upon in the analysis and data collection phase have been presented. The steps of the brief and the analysis shed light on the directions and areas of study that form the basis of the concept. These exploratory chapters should show what the exact design program is, what the real needs are, what kind of physical, social, cultural context it has to be put into. Upon completion of the INPUT unit, the creator must have all the knowledge necessary for design in order to create a work that offers a solution to the problems in the field and creates a strong territorial coherence.

In terms of the mechanism of concept creation, the next big unit is PROCESS, which is a unit in the mechanism of the design process that is more difficult to define and describe, an absolutely specific activity that varies from individual to individual. In this phase, based on the INPUT data, the goals, priorities and detailed solutions are born, which can be the basic elements of the concept.

_defining goals:

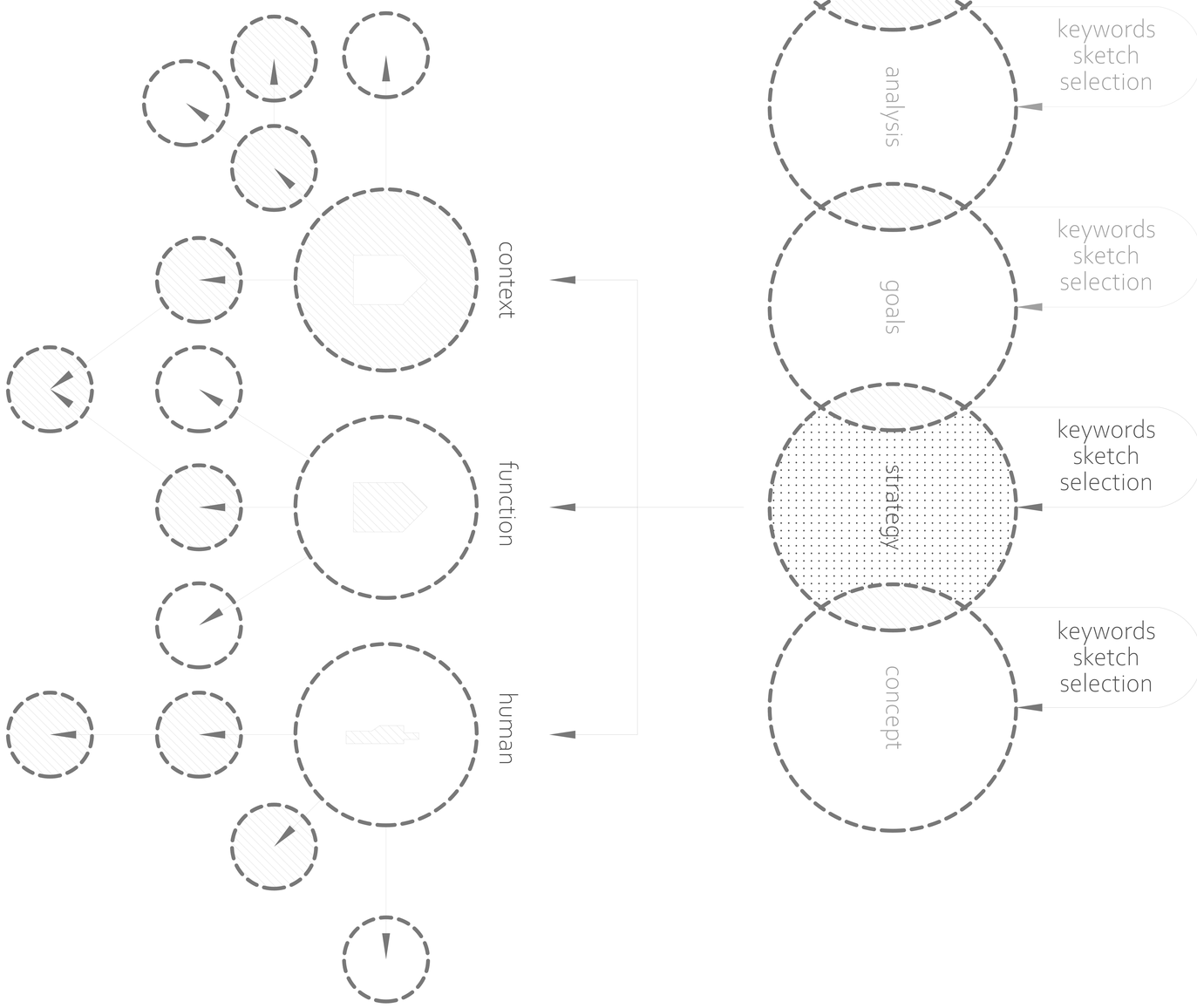
In each chapter, in accordance with our available and obtainable knowledge, it is necessary to formulate future-oriented directions and ideas that offer alternative solutions in as many respects as possible. Defining the objectives of the design concept at this stage is the expected results formulated based on the INPUT data. It is worthwhile to handle these predefined goals to some extent flexibly, as unforeseen variables may come into the design process that may affect them, and even the stages of the brief or analysis. Of course, certain goals need to take priority over basic needs because they have a strong social, functional, or contextual impact that may override other goals as appropriate. These goals are the ones that would later define the concept, have an impact on the location and context of the building, and articulate its main message. Ideas about how to achieve these goals will be the main features of the building that will make it look analyzable and interpretable. Based on this, it is advisable to set up a hierarchy or create imaginary categories in which the priorities of the goals to be included are of similar strength. Non-primary goals may change, strengthen, or weaken as the concept evolves. This is so because in order to achieve the main goals we must prioritize them, and also because the emergence of a new unknown factor may have an impact on both the INPUT and PROCESS phases of the concept formation process.

In this chapter, in addition to objective judgment, the designer's personal, subjective attitude is also introduced. Based on the same brief and analysis data, we may prioritize different goals. In addition to the factual data on the design area, the desired results largely depend on the social, cultural and professional involvement and background of the designer. Already at this stage, it is important to note that when creating a concept, the goal is not designer self-realization, but an architectural attitude that reacts to social and environmental contexts. In light of this-during concept formation-the designer must find the right balance between subjective and objective attitudes, focusing on the task to be solved.

It is worthwhile to formulate the general goals in smaller units and topics. How does the goal to be achieved is formulated by understanding the context, function and user needs? There is no template that can be used in all situations to define the goals of the concept and to establish their strengths and relations with each other. Of course, there are guidelines in textbooks, legal and local regulations that provide indicative data on area, installation, and minimum functional dimensions and relationships. The question is what unique, innovative alternatives the individual can offers within certain limits and regulations. Being innovative, in this context means, that the designer has an idea about the concept formation process, the starting element of which is goal-setting.

end of "goals" step: summary / sketches:

Defining the main goals from the context, function, human aspect, keywords, sketches, in which the objective of the three themes and the desired result is also represented.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_ The know-how of achieving goals

_alternatives for solving a focused problem area

_activating creative thinking

_basic elements of the concept

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The fourth step in the concept formation process is strategy. Strategy-in the design process-is meant to give an answer to how to achieve the expected and necessary results, that were formulated by the goals. There can be countless different ways to achieve a set goal. These paths and strategies are processes that require an intensive creative and problem-solving attitude. Strategy creation requires constant, continuous development from the designer, the measure and quality of which is creativity and innovation. The core of a creative thought is an idea. An idea can be born in many ways, at any time. Many times, the solution to the problem arises immediately, quickly, giving a creative answer to the given situation. In many cases, however, this "Aha! moment" shifts in time and we it takes longer to get to a creative solution; however, this time factor does not change the essential value of the idea.

At this stage of the design, the relationship between the designer's objective and subjective attitude changes and the designer's personality and creativity become a stronger, more significant influencing factor. From this stage onwards, the identity of the designs becomes more and more unique. Different people use different paths, strategies and have different thoughts, ideas, innovations. Of course, even in this intuitive environment, objectivity plays a big role; it provides an pragmatic framework for creative ideas, fertilizes the soil where innovative ideas are born and it also tries to stabilize them so that we can formulate a reasonable, clear answer to the real problem. Thinking must be placed within limits, as too much freedom, the opportunity to do anything, can cripple the creator, creating uncertainty.

The quality determinant of an idea is its creativity, uniqueness and innovation. How can we distinguish an idea from a creative idea? Innovative ideas are usually simple-which is not equal to them being superficial- they are clear, and in most cases have the potential for improvement. It is extremely hard to determine when an idea will pop into our mind, it's usually an unexpected thought. However, this process can be generated and supported by different techniques.

According to Edward de Bono's book, Lateral Thinking:

- the number of problems we encounter determines the number of points of views it requires to be looked at from. (minimum 3) This forces us to find new ones in addition to the most common, most obvious aspects and to give them the same level of validity.

- rearranging and turning relationships upside down
With this method we can create a completely absurd situation, due to which the connection of the elements in it, their relation to each other, is completely reversed, in contrast to what is usual.

-analogy search. That is, we simply put the relations of a given situation into a new environment. By leaving the context limiting the original situation, we can only focus on the context of the given situation. In this new environment, it is easier to develop the idea for the given problem, but it is important to analyze and control it in the original environment as well. Turning a given situation into an analogy is a very inspiring process that allows us to understand the context of a given situation in such depth that by focusing on the facts, we can find similarities in completely different areas that can provide a further basis for development.

-shifting the emphasis, We have to look at the situation from a different point of view, in addition to the clearest point of view, we focus on possible details and elements in the given problem area that do not seem significant at first sight. The point is a quick and intense change of perspective.

In addition to all these techniques, the personality of the designer, his attitude to the task, are also defining component in this process, that requires so much creativity. It is important that in addition to the constant desire to experiment and discover, we look at own ideas with a critical eye and look for different alternatives, ways, new perspectives to solve a problem with sufficient flexibility, we must not be satisfied with the first solution we find. However, new thoughts should not be put in a box right away, labeling them "good" or "bad", we need to let them breathe; they might need time to unfold and mature. It is advisable to put these ideas on paper, to sketch them, to describe them in a few words, because even if they are not used in a given situation, they can still be a valuable suggestion in connection with another task.

For creative, effective thinking, a designer must have a variety of attitudes, out of which Tamas Lukovich believes the 9 most important to be:

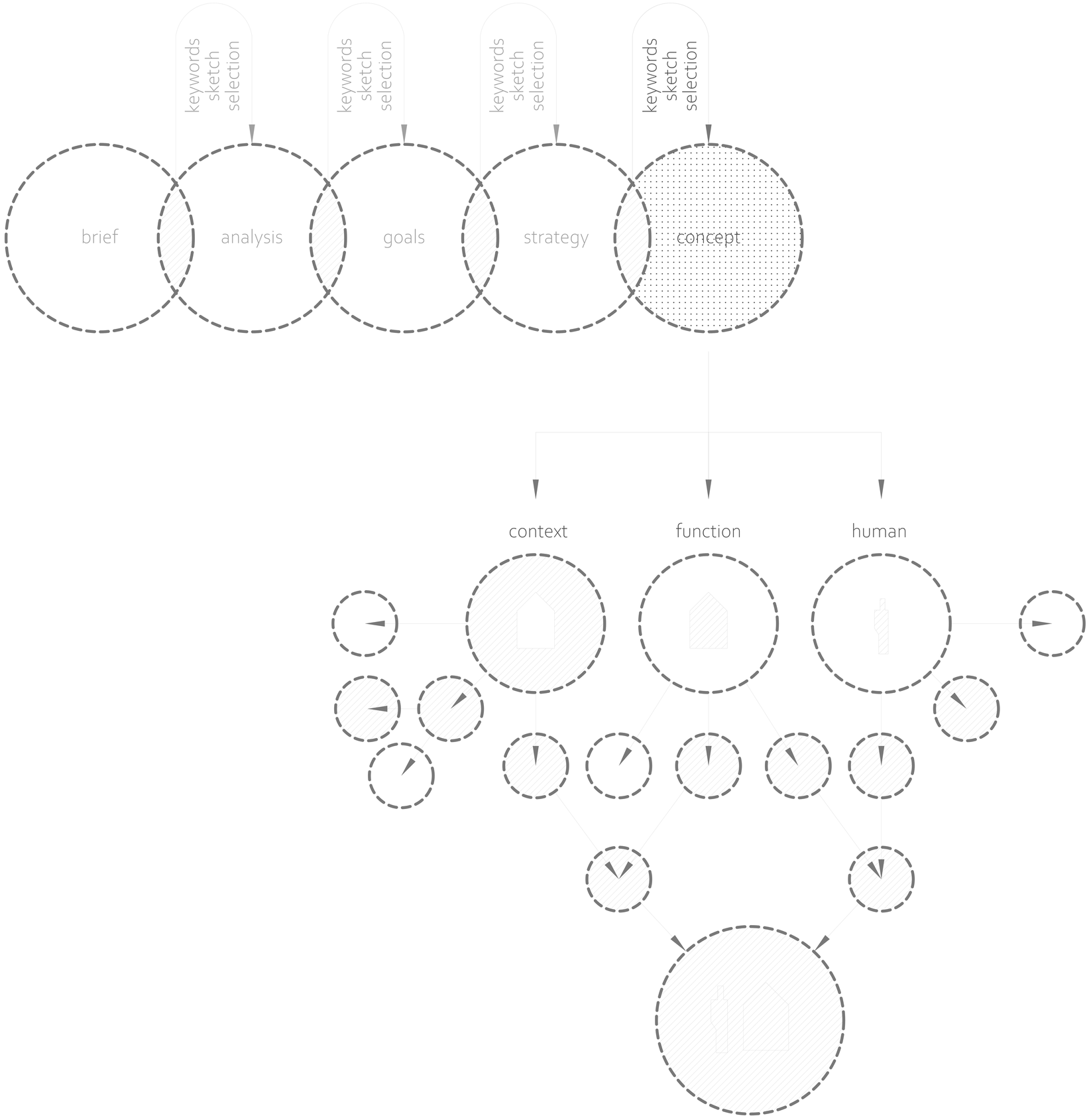
-mental flexibility
-openness to new information
-systematic thinking
-abstract thinking
-positive thinking
-sense of humor
-Intellectual courage
-emotional flexibility
-resistance to cultural conformism

The design attitude that determines the concept formation process is a light, flexible kind of thinking, which responds quickly to specific situations. In the design process, new information often comes to light, which in most cases modifies the system of relationships developed that far. It does no matter at any stage of concept formation new information come to light, be it a final or analytical stage, its impact on design cannot be ignored.
In the search for alternatives to a problem, in addition to the intellectual intelligence of the designer, emotional intelligence also plays a central role. It determines the degree of empathy and understanding and the degree of the sensitive responses given to them. Systematic thinking establishes the framework of the creative process, systematizes the given task, defines the step-by-step process of designing.

In addition, an abstract, unique, theoretical way of thinking, an experimental approach to the given problem-that leaves the usual, accepted methods behind-is an essential design attitude. The basic disposition of the creative man is to not focus on the obstacles (what, why cannot be solved) but on the solutions that overcome them, looking for alternatives. In the process of concept formation, it is essential that we examine the given situation from a different, often absurd point of view. Intensive alternation of these aspects requires a good sense of humor, which presupposes sufficient flexibility to discover new alternatives. The design process requires us to be playful, intellectually adventurous, that is, we should review situations that are considered generally accepted. An interpretation from a new point of view may overwrite solutions that were previously considered satisfactory, that is, a creative person cannot be satisfied with comfortable, accepted points of views, without reviewing them first. It is the duty of the designer to determine, on the basis of as many aspects as possible, the possible answer that can offer the best possible alternative solution in a given situation.

end of "strategy" step: summary / sketches:

Formulating alternatives and possible versions of how to achieve the main goals defined from the context, function, human aspect, which are then summarized in keywords and sketches.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_formulation of a final answer to a given design idea

_ a designer's way of thinking, attitude, manifestation of values

_ convergence of sub-solutions

_combining, connecting, overwriting and redefining alternatives

///

The PROCESS stage of the concept formation mechanism ended with the definition of goals and the establishment of strategies and alternatives. With this, we have the essential elements of the final concept, we know what we want to achieve and we already have alternatives to solve each problem. These elements (goals, strategies) need to be handled with sufficient flexibility, as they need to be formulated as one single response in the next, final concept step, providing solutions to many problems. This response, an alternative, will be the last element of the process mechanism, OUTPUT.

The last task of the creative work is to formulate the final alternative. Design process is characterized by flexibility, creativity, the ability to combine and their constant review, self-criticism, and the selection of alternatives, which require a high degree of patience and commitment on the part of the designer. The possibilities for combinations given to solve a multi-factor problem system are endless. In addition to basic social, contextual norms, the priority of possible responses depends significantly on the design attitude. It is the personality of the creator that can make a design created in a given situation unique and innovative.

The goals developed in the PROCESS mechanism and the answers and strategies formulated to them provide solutions to the problems at hand. It has been stated many times that the flexible management of these goals, strategies and paths is essential. The final response/concept can be built from these alternatives, however, examining the task in a broader context, older findings and alternatives may change. The final, definitive answer can override and reshape the hierarchy set up in the PROCESS mechanism, or even highlight a new perspective for a consistent end result. In this phase, there is a need to continuously switch between different points of views according to each problem area, and to know when to focus on details and when to examine the broader context.

The final answer is considered effective if the statements made in it are free from contradictions. A creative work is able to handle the problems of the task to be solved on its own, without additional applications, in a way that the innovations in it create a unified, locally interpretable answer by supporting each other.

It goes beyond solutions that only focus on dealing with the current problems of the given situation, it examines the deep social and cultural contexts, and formulates sensitive and relevant responses to them. In their physical context, they are works that take into account the local values in a broader and narrower sense in all cases and rely on them. A concept plan should clearly state what it has to say, clearly articulating its point of view on context, function, social and cultural issues. This message shows the personality and way of thinking of the designer and, in addition to being able to leave a physical imprint in an urban, social fabric, his own personality and his vision of the world are expressed at the same time.

_innovation - sustainability

The essence of concept creation is the ability to form innovative ideas. An innovative, creative architectural and / or urban design must be shaped in the spirit of sustainability. Sustainability can be interpreted in many ways and from different perspectives. A plan is truly forward-looking when it can satisfy sustainability articulated by these perspectives as much as possible. These perspectives differ from task to task, their theme and essence depend on given plan's function, context and its users.

Of course, these perspectives include energy sustainability, which is already familiar to the wider professional and social community. Reducing the building's operating costs and using renewable energies is an important step towards sustainability.

However, an architect needs to think much more complexly when designing a building. It is not sufficient only to apply trending renewable energy units to a building.

A designer needs to think about sustainability as a whole, in terms of the entire life cycle of the building. However, this requires that the creator is able to create in a thorough causal context, to create a concept that can formulate correct connections and answers in the future as well. The essence of sustainability is that we do not use more than is necessary and sufficient. However, this requires that the designer sees the real needs and creates a concept based on them, which, due to its practicality, results in continuous utilization.

Using renewable energies for a building is also a waste of natural resources if it is dysfunctional and untapped. This can only be avoided if the responsible design mindset can understand and interpret the given context, function, social context and can formulate a response based on them with clear local identity, necessity and usefulness.

_General issues of sustainability:

_necessity: Considering the entire life cycle, the building that leaves the smallest ecological footprint is the one that never gets built. It is worth considering and prioritizing the recycling and transformation of the existing building stock, increasing the life cycle of an existing building.

optimization: an important element of concept creation is the in-depth mapping of the context, function, social needs and relationships, on the basis of which the longevity, dimensions of the building can be realistically formed, and necessity and usefulness of the building can be realized.
building dimensions - operation
function - utilization
social demand - utility

_massing, use of materials: the operational sustainability of a building is decided by the mass formation of the building. In addition to climatic conditions affecting the area, it is important to know the effects of climatic conditions on building design and material use. The opening, closing and shaping of a building is the result of a multivariate system, which has functional and contextual elements in addition to climatic factors. At this point, it is useful to examine given regions traditional, folk architecture and interpret their operational mechanism. In many cases, the essence and way of thinking of systems developed through experience can present transferable alternatives. A building is truly sustainable if, due to its design and use of materials, responds to environmental impacts in such a way that it is no longer necessary to install additional elements on the building in order to utilize them or to be protected against them. A building that is formally well-functioning in all respects is sustainable in itself, and elements that utilize active renewable energy can complement its already good function. It is important to notice though, that it is not these elements that make a building sustainable. The less we use (thanks to good shaping and use of materials), the fewer elements are placed in the building, which significantly determines its ecological footprint.