ARCHITECTURE CONCEPTS

Concepts, Materials, Constraints
Architecture invents concepts and materializes them by turning them into physical spaces and constructed materials. It is distinguished from other fields by the language it uses: concrete and glass, space and light, movement and program, as opposed to words and sentences, numbers and equations, melody and rhythm, and so on. What distinguishes a concept in architecture from a concept in philosophy or mathematics is its implied materiality.

The invention of concepts extends far beyond philosophy, as Sergei M. Eisenstein’s concept of montage in film or Marcel Duchamp’s ready-made in the visual arts demonstrate. These concepts, both in and outside of their realization in specific works, have had a major influence on the arts of our time. In a similar manner, concepts such as the plan libre by Le Corbusier or the “endless house” by Frederick Kiesler have been crucial to the development of architectural thought. It is the invention of concepts that makes architecture a form of knowledge rather than mere knowledge of form.

It is therefore arbitrary to reduce architecture to simply an art of construction: architecture is the art of building concepts through spaces and materials. Nevertheless, an architectural concept in and of itself has no materiality, and a concept should not be confused with the way in which it is materialized. Two different materials can be used to express the same concept but will generate different effects.

In a similar manner, architecture cannot be separated from the processes and constraints that accompany its making. Architectural concepts are never born out of abstraction or from the tabula rasa of thought. Gravity and physical forces gave birth to columns and arches; weather protection, new technologies, and specific economic constraints resulted in curtain walls. Architectural concepts are always anchored in a practical or “real” domain.
Architecture vs. Building
Architecture is not only “the magnificent play of volumes brought together in light,” as Le Corbusier defined it, nor is it specifically about contemplation or communication. These terms can apply to other artifacts and activities, from outdoor sculpture to body building. Again, architecture is the art of inventing concepts in space through materials. Form is its offshoot or accessory. The making of concepts is the justification for architecture; otherwise, functional buildings with attractive shapes would suffice. Concepts differentiate architecture from mere building. For example, a bicycle shed with a concept is architecture; a cathedral without one is just a building.

From Preconceived Idea to Concept
When architects first confront a program or a site, they often form a mental image of what the resulting project might look like. It is generally a pre-image, frequently the product of intuition or unconscious imitation, that prefigures what the eventual construction may resemble. The work of the architect then consists of dismantling that first image by taking advantage of specific site constraints, programmatic opportunities, cultural specificities, and so on until a new and original concept emerges or the pertinence of the early intuition is confirmed. The concept becomes an overarching idea that will qualify the intent and character of the project from its overall urban presence down to its smallest details.

Sometimes the concept is accompanied by a diagram, meaning an abstract configuration that represents the prevalent forces or movements that will come to define the project. Diagrams are not intended to represent what the architectural project will look like; instead, their purpose is to illustrate how it is conceived or what it can do.

A Concept is not a Shape
A concept is not an image, shape, or parti. For example, a grid is not a concept, nor is a cube, axis, or cylinder. An architectural concept is rarely a single unique specificity. Forcing a program into the shape of a cube or a sphere is reductive and represents nothing more than a formal gesture unless proper thought and structural or programmatic invention turn it into an original concept. Similarly, oversimplifying reality by ignoring the fine dimensions of a program or a site does not result in a concept.

Multiplicity
A concept is generated by a multiplicity of factors—site, program, climate, schedule, and budget, among others—that together constitute the context for the conceptual invention. Architectural concepts are rarely a single whole or totality. They are always made out of several parts or components that include probable use, structure, or form.
Still, a concept can have only a select and limited number of parts; trying to express every one of the hundreds of criteria that go into making a project kills a concept. Trying to address in equal measure zoning regulations, waterproofing membranes, the alignment of bathroom tiles, double-loaded corridors, and elevator run-offs, to cite only a few customary demands, will not result in a concept. However, it is necessary to make all of the above converge so as to reinforce rather than constrict a concept.

The Components of a Concept
A concept is the point or place where its relevant components “meet” to make architecture. For example, space, movement, and action are three highly differentiated components of architecture whose interrelationships can generate an architectural concept. As in philosophy and other fields, the components of an architectural concept cannot be detached or separated from the concept itself, no matter how different or heterogeneous they may be.

To take an example: Ludwig Mies van der Rohe’s flowing space is a concept. In his Brick Country House project (1923), the concept has two components, solids and voids. The solids are represented by discrete and determinate lines. A 1965 version of the original drawing shows that each wall is detailed carefully so as to demonstrate the materiality and individual assembly-pattern of every brick. In contrast, the voids are represented as continuous, indeterminate, and fluid. The lines describing the solids all define a layer of space between them, implying a human scale for a potential occupant. The uninterrupted void between the discrete solid walls suggests the possibility of the free movement of bodies in space.
The Materialization of Concepts
An architectural concept that is materialized in bricks will inevitably differ from one that is made out of metal or glass. It does not matter whether Mies' Brick Country House was "inspired" by earlier paintings by Theo van Doesburg or Piet Mondrian or films by Hans Richter, or whether it started with the brick material or even began with the concept of flowing space. The bricks inescapably qualify Mies' spatial concept. A material can reinforce or distract from a concept. Similarly, materializing a concept requires intelligent and selective design decisions, including during the process of detailing a building, in order to emphasize or successfully embody the concept.

Concepts in History/Constants
Architectural concepts rarely come out of nowhere. They either result from specific problems or relate to other architectural concepts, whether contemporaneous or transhistorical—courtyard houses, carpet or mat buildings, inhabited bridges, etc. Because most architecture is defined by time, space, and technology, concepts constantly evolve into other concepts. For example, tower concepts evolved radically with the invention of the elevator. Hence, architectural concepts do not exist independently: they are almost always related to concepts that preceded them.

Architectural concepts are not "forever." They depend on specific circumstances. The great concepts that marked and defined the Roman era cannot be repeated today (except in the form of historical allusion or inconsequential pastiche). However, rejecting beliefs in historical permanence does not mean rejecting great concepts. There are particular constants in architecture. For example, a coliseum, watchtower, or basilica may be programmatically obsolete, but its geometry can provide a starting point for new spatial configurations. Hence, the polemics surrounding the so-called autonomy of architecture are relevant only if we distinguish the differences between architecture's constants and its many variables. Those constants include gravity, the need for waterproofing, and the laws of physics—namely, structure, envelope, and light (for example, the maximum depth of a floor plate that will still allow daylight to penetrate into that floor). The variables include almost everything else.

Because the field of architecture was not born all at once but instead evolved through and across centuries and civilizations, original concepts often engage in dialogues with their historical precedents. Grids or types, for example, populate the history of architecture. They are not concepts per se but instead function as conceptual frameworks.

Fundamental vs. General vs. Specific Concepts
Fundamental concepts define the nature of a discipline. (For example, in psychoanalysis "transference" and "the unconscious" are fundamental
concepts, since the discipline cannot exist without them. In architecture, fundamental concepts include vectors and envelopes, event-space, context vs. content or, in another mode, the concept of "type" or Rem Koolhaas's "bigness." General concepts include pyramids and labyrinths, Cedric Price’s "non-plan," Le Corbusier's plan libre or architectural promenade, Kiesler’s "endless house," and Louis Kahn's servant and served spaces.

General concepts may be extrinsic to the particular architectural situation in which they are applied. For example, the generic concept of superimposed systems of points, lines, and planes was independent of the original site and programmatic conditions of the Parc de la Villette but was adapted to them. In reverse, a concept can be intrinsic to a particular situation—as with the superimposed base, middle, and top layers at the Acropolis Museum—but later be expanded on so as to apply to a variety of situations.

Specific or particular concepts correspond to a unique set of conditions, as in the case of the Casa Malaparte in Capri.

What is a Concept?
What is a concept and what is it for? Etymologically derived from the Latin verb concepere, a concept is about grasping or holding onto the real. Concepts are what allow us to apprehend reality. Conceptualizing a situation or event means extracting the potential of its circumstances. An architectural concept critically engages the circumstances, brief, and situation and formulates them in an original way.

New Types/Retroactive Concepts
One challenging task of architecture is to develop concepts that pertain to new types—for example, a new type of park, museum, or town. Alternatively, architectural history contains recognizably important buildings that do not seem to possess an identifiable concept, allowing relevant concepts to be “invented” or “discovered” retrospectively through critical work. Witness Robert Venturi and Denise Scott Brown’s Complexity and Contradiction in Architecture (1966) and Learning from Las Vegas (1972, revised 1977), Aldo Rossi's The Architecture of the City (1984), or Rem Koolhaas's metropolitan investigations (Delirious New York: A Retroactive Manifesto for Manhattan, 1978). The architect-as-writer observes an existing reality and articulates an original concept in order to better grasp or apprehend that same reality.

Borderline Concepts
Are there concepts that do not result from careful analysis of a problem and its circumstances—that do not respond to the objective analysis of facts but are nonetheless concepts of sorts? One could
list among these “borderline” concepts analogical concepts in which an arbitrarily selected image or figure (like a bird’s nest or a gherkin) is turned somewhat literally into an architectural project; “weak” concepts in which reality is too complex or chaotic to be conceptualized; figural concepts such as buildings in the shape of mandalas, crosses, or hexagons; vague concepts, as suggested by phenomenology, in which a concept is intentionally made indecisive and variable; experiential concepts where personal experience is conceptualized, as in Bruce Nauman’s Performance Corridor (1969); private concepts that are indistinguishable from the designer’s personal idiosyncrasies, as in Antonio Gaudi’s work; syntactical or formal concepts based on self-determined formal rules; typological concepts developed around existing building types; and even poetic concepts like the snake devouring the elephant in Antoine de Saint-Exupéry’s fable The Little Prince (1943).

All of the above are borderline concepts but nevertheless distinct from esthetic or cosmetic techniques. Ultimately, it is in the wake of Marcel Duchamp’s attack on “retinal” practices that one locates some of the most challenging concepts—concepts that are not based on visual effects and architectural projects that are not based on mere images or styles.

Concepts, Percepts, Affects/Conceived, Perceived, Experienced

Concepts are sometimes confused with perceptions or percepts. Theories of perception abound, particularly in the phenomenological work of Maurice Merleau-Ponty. But “perception” means something that is already present in front of the observer. Presentations or representations are not concepts, nor can the conceptual be melted into the experiential. Concepts cannot be dissolved into percepts and affects. Let’s take an arch. It is a concept of sorts since it combines a given material (stone, concrete, or steel) with the force of gravity and defines a space. As soon as you either draw or build the arch it belongs to the world of perception, meaning that it becomes a percept. Now, let it decay. Let it be taken over by ivy and moss, and its particular scent may trigger romantic nostalgia in the observer. The ruins of the arch now belong to the realm of sensation, experience, or affect.

Both Gothic cathedrals and Renaissance churches embody a sophisticated game of mathematical proportions, soaring arches, and unmistakable mixtures of sounds, echoes, cool temperatures, and smells of incense and burning candles. They are simultaneously concept, percept, and affect. However, their affect and perception can under no circumstances be substituted for the concept. As the philosopher Spinoza famously said, “The concept of dog does not bark.” Similarly, the concept of “arch” does not smell. Concept and experience are mutually exclusive, but together they make architecture what it is.
Concept, percept, and affect are three parts of a whole that informs architecture. Concepts are new means to apprehend architecture; percepts, ways to visualize it; and affects, the sensations, desires, and emotions generated by the two preceding terms. All three are needed in order to make up architecture.

Their interrelationship is demonstrated when I walk into the Hagia Sophia in Istanbul, into the semi-darkness populated by the contradictory religious signs of Christianity and Islam, rays of diffused light, and mixed smells of incense, among other less definable scents. To the building’s rigorous architectural concept and unmistakable percept is joined its undefinable affect. All three terms determine its architectural resonance and role.

Any given problem can be addressed or responded to through a variety of configurations: two hundred housing units on a given site can be stretched out vertically, aligned in a narrow band, configured into a ring or a square, and so on. As the configuration is selected, it needs to be turned eventually into a concept. Then there are several variations on how the concept can be materialized; for example, the ring formation can be made out of wood rather than brick or glass. The conceptual strategy remains the common denominator but the way in which the concept is qualified by material or color will lead to differing percepts and affects.

**From Question to Concept**

Architecture does not start from scratch. It starts with a program, site, history, or the many other chaotic constraints that are handed to the architect at the beginning of a project. An architecture that pretends to be so autonomous that it has no extrinsic starting point, or that begins from within itself, is arbitrary. Similarly, architecture does not depend on a subjective, personal, or creative impulse. Its beginning is always a question about needs, site, or constraints. It is first and foremost about raising questions and defining problems.

The question goes far beyond single issues of use, square feet or meters, budget, materials, regulations, projections, light and space. The question will determine the status of an architectural project. Many histories of architecture, in contrast, have started by focusing on the formal features of a design, generally bypassing architectural concepts in order to concentrate on images or percepts—on what the building looks like.

**What is the Question?**

Important architectural questions are characterized by the fact that their specific resolution in a project does not terminate the question once and for all. The question always remains in the form of gravity, light, envelope, movement, repetition, scale, solids and voids, and so on. These general questions will reappear in a different formulation
in every project. Particular answers do not eliminate the existence of the general question.

The more that specific answers are found for a general question, the more daunting the question becomes. For example, questions of entrance and envelope—getting into a building or keeping out the rain—are practical questions. There are a number of possible solutions, but the general question will always exist independently of the answers it provokes.

**Pseudo-Questions; Real or False Questions**
The quality of the question often determines the quality of its answer. What if a question is wrongly formulated? There are plenty of false questions in architecture. To be asked, “Can you build so many square feet according to zoning regulations at such and such cost so as to produce so much rent?” is rarely conducive to significant architectural responses, though it is not necessarily incompatible with them. Similarly, another false question might be: “Can you design this building as a unique icon?” Common to many architectural competitions, the question needs to be reformulated in an intelligent manner by the architect.

The need to reformulate wrongly formulated questions is what makes architecture a critical activity. Sometimes the question may be fundamental: “Why do we need architecture in this case?” Sometimes there may be no compelling reason why it is architecture that should answer the question.

**Canons and Dogmas**
“What is good architecture?” Is it a house by Mies, Palladio’s Villa Rotonda, or a stone shelter in a remote mountain landscape? If students ask the same question, the answer may depend on whether they are inquiring from the Escola do Porto in Portugal or the Architectural Association in London. Both answers may be correct, even if they are diametrically opposed.

Theories of architecture have often followed near-religious patterns, with individual gods, canons, and dogmas. But architecture is not about what is good or bad, right or wrong, but instead about asking the appropriate question and answering it through a coherent set of concepts or ideas.

In short, architecture encounters problems, raises questions and, in the process, produces concepts. Inventing a new concept always starts by determining the right architectural question.
1. Mies van der Rohe, Plan for Brick Country House, 1923
2. Great Pyramid of Cheops, Giza, c. 2500 BC
3. Medieval Labyrinth
5. Le Corbusier, Plan Libre, Plan for Palais des Congrès, Strasbourg, France, 1964
7. Curzio Malaparte, Casa Malaparte, Capri, Italy, 1938–42
8. Bruce Nauman, Performance Corridor, 1969
9. Components of a Roman arch, diagram
10. Arch diagram, origin unknown
11. Charles-Louis Clérisseau, Triumphal Arch of Titus in Rome, 1781
12. Interior, Hagia Sophia, Istanbul, 532–537 AD
13. Mies van der Rohe, Farnsworth House, Plano, IL, 1951
14. Andrea Palladio, Villa Rotonda, c. 1565
15. Vernacular alpine architecture