

A Framework of Patterns Forming a Language

Making Connections

Christopher Alexander
A Pattern Language

Components consists of many components, which themselves consist of components and those components consist of more components. Within Alexander's descriptions of towns, buildings and construction, 253 patterns emerge. The layers of patterns repeat with specific intent and are not random. The repetition occurs when we understand the meaning and validate the patterns based upon our affordance of the components. These patterns form clusters in a sequence and that structure of the network ultimately builds the language. Within this language, Alexander provides the tools that allow anyone to create beautiful, functional and meaningful places within a living world.

Nikos Salingaros
Principles of Urban Structure

Internal consistency requires the pattern language to link to existing languages at the boundaries.

Consistent Patterns and Boundaries are needed for acceptance

Inconsistent Patterns and Boundaries create discontent

Influencing Design

Patterns provide the Framework of Design

Patterns on higher levels are derived from patterns on lower levels. As the pattern grouping grows, these larger patterns become more intellectual.

1. independent regions

Pattern Examples from Christopher Alexander's *Summary of the Language*.

The Language Grows as Levels and Patterns are Added to the Framework

Patterns Must be Developed, Repaired and Replaced Over Time For the Language

Distinct patterns share a similar structure and imply a higher level of connection. These patterns create a mosaic of subcultures to form the language and as they progress from large to small and small to large, it "feels right."

3. city

6. towns

8. mosaic of subcultures

19. shopping

Language clusters the patters and provides the interconnections

Patterns are Discovered, Not Invented

One pattern can contain other smaller scale patterns. These patterns can overlap and coexist on the same level. Sometimes patterns are complementary and both are needed for completeness. Every level in the pattern hierarchy is important.

11. public open land

14. neighborhood

16. public transportation

19. shopping

Languages Supersede Technology and Materials

Patterns are Rules

Clusters of patterns form the language with their order and proximity. In addition, the rules that connect these patterns are just as important as the patterns themselves. Small patterns more immediately connect to the human and encapsulate the human experience while large patterns begin to convey ideas.

75. house for one person

76. house for a small family

77. house for couple

19. shopping

Language has Grammar, Logic, Syntax, Constraints and Dimensions

Improving Our World

Patterns Require Validation

Alexander orders patterns in decreasing size (large to small). Cities are before neighborhoods which are before houses. Salingaros argues that the human mind can combine the smaller patterns into groups to generate new properties that were not present in the original components (small to large). For example, compare ancient cities and their compact nature to modern cities that are spread out across larger areas of land. This is made possible because of the evolution of smaller patterns such as transportation.

Languages Need Cohesion

A coherent combination of patterns will form a new, higher-level pattern that possesses additional properties. Levels can flow from large to small or small to large based upon the concept of validation. The unity that is formed from the bond between patterns on different levels creates the cohesion.