Shape Grammar

Recently, shape grammar has been explored through functions addressing a variety of design problems. It is a viable tool in the design process that helps inform the designer on multiple levels. Shape Grammar can aide in translating values and constraints into form.

The development of shape grammar begins with a vocabulary of shapes and spatial relationships between identified shapes. Spatial relationships constrain the ways that vocabulary elements may join with one another. Shape grammar can be formed by simple compositional ideas that enlighten the design process. They also provide contexts for adding and subtracting specific shapes to create designs in step with shape grammar parameters. In theory, shapes and spatial relations can be expressed by any form imaginable and are limitless in quantity. “In architectural practice, the constraints of a design problem and the constraints that the designer brings to the problem motivate the selection of particular shapes and spatial relations (Terry Knight http://www.arch.usyd.edu).”

Budget, scope, site considerations, financial limitations in conjunction with the designer’s style, intent, etcetera influences the grammar of shape, and thus, the design directly. The shapes and spatial relations used to work out designs often have implicit meanings and functions in the same way that, in a conventional design process, the lines a designer puts down on paper have implicit meaning.

Shapes, spatial relations, and rules are constantly changed and redefined until the design that is generated satisfies the intention of the project. The design is then fine-tuned by precisely detailing basic grammars in order to produce more complex grammars.