Chapter 18
A First Glimpse at the Whole:
Christopher Alexander’s Fifteen Fundamental Properties of Living Centers
and Their Implication for Education

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ABSTRACT
This chapter proposes an interesting discussion on how to transfer design patterns from architecture
and software engineering to education. Computer scientists and pedagogues try to define patterns and
pattern languages suitable for educational needs. The main goal of their work is to enhance quality and
to foster best practices of teaching. Arguably, talking about a pedagogical pattern language requires
definitely thinking about and describing its taxonomy, in other words, we have to think about a “gram-
mar,” a set of logical and structural rules that govern the composition of meta-patterns, patterns and
subpatterns like sentences, phrases, and words in any given natural language. Analyzing an exemplary
educational scenario, this contribution will demonstrate the applicability of Alexander’s fifteen proper-
ties of living centers in education and intends to open discussion and reflection about the important role
of an educational taxonomy for classifying existing pedagogical patterns.

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A FIRST GLIMPSE AT THE WHOLE

With this thematic paper we would like to exemplify our first considerations on how might be used Christopher Alexander’s fifteen properties of living centers as a foundation and starting point for the analysis and classification of different stocks of educational scenarios, the “phrases” in a system of pedagogical patterns. In our perception, the lack of an agreed educational taxonomy has its root in a misunderstanding of how to define educational scenarios (e.g. different didactical levels are usually confounded) and, with regard to taxonomies, assuming a strict hierarchic structure of taxonomies, forgetting the importance of a holistic approach (Alexander, 1977).

In these premises, the following considerations are a tiny fragment of a complex discussion which we had during a research workshop last year. It dealt with the pattern approach of Christopher Alexander. This year, preparing a didactic lecture on patterns in the context of a Grundtvig Workshop in Vienna, we tried to build on some of the workshop results. We attempted to transfer Alexander’s fundamental properties of life discussed in the 5th chapter (cf. Alexander, 2004a, pp. 143-242) of his book “The Nature of Order – The Phenomenon of Life” (TNO) to pedagogy. To provide a basis for our considerations, first of all we deduce five premises from Alexander’s conceptions.

1. The concept of life is far more than our traditional biological understanding. For Alexander, “life” is an emergent property of structures, i.e. the nature of order. Life emerges from the wholeness, the structural coherence and therefore is an emergent property of matter:

   The key idea in this book [TNO] is that life is structural. It is a quality which comes about because of the existence of a discernible structure in the wholeness – and therefore explains what we perceive as the quality of buildings of artifacts. (TNO, p. 110)

   We dare to suppose that the quality named in this quote refers to the former QWAN (quality without a name).

2. “Life” is not a yes-no property, but according to its degree of wholeness, degree of harmony, and degree of structural coherence a gradual property of matter:

   […] almost all of us perceive this quality, and feel it as it occurs in varying degrees in different parts of space. […] this quality is not merely the basis for a distinction between beautiful things and ugly things. It is something which is detectable as a subtle distinction in every corner of the world, […] It is a quality which changes from place to place and from moment to moment, and which marks, in varying degrees, every moment, every event, every point in space. (TNO, p. 64)

3. By introspection “life” can be perceived as a feeling. This “sense of life” can be sharpened by practice. The determination of the degree of life cannot be reduced to individual opinions and /or values, but can be empirically confirmed. In this context, especially the comparison of objects and / or situations in pairs is helpful:

   What we call “life” is a general condition which exists, to some degree or other, in every part of space: brick, stone, grass, river, painting, building, daffodil, human being, forest, city. And further: The key to this idea is that every part of space – every connected recognition of space, small or large – has some degree of life, and that this degree of life is well defined, objectively existing and measurable. (TNO, p. 77)

4. How wholeness can be analyzed? Disassembling something into individual elements destroys its configuration, its in-