

ABSTRACT

The morphological approach in architecture

In order to answer the most important question in architectural practice – *how to cope* with a task superbly – it is essential to bring the questions of substance - *what for* – and of spirit and purpose – *wherefore* – into the spotlight. Breaking up the exclusive and thus narrowed question how we do something is a fundamental subject of engineering science, which strives for social and historical context.

Morphological research claims to be an all-embracing perspective and defines or describes issues as closely as possible. Its approach to problems without showing prejudice is the reason why merely this specific way of thinking meets the holistic requirements of architecture. This method provides maximum security ensuring that no aspect is left behind. The result is clarity in communication and argumentation between stakeholders and helps to avoid misunderstandings.

Aim and methodology of this study

Initially, this requires the already described identification of the most important relationships in the system architecture, the elaboration of appropriate tools for empirical collection of quantitative and qualitative data. The next step is applying a reasonable mathematical model for analysing and linking these in its essence very different data.

The aim is to develop the AQ-System to determine the architectural quality (AQ-S) of lightweight structures which have already been built or are in the process of being designed. The addendum lightweight structures was chosen because of the authors' believe that this design philosophy has the greatest potential in terms of sustainability and architectural quality improvement. Supplementary the quality of lightweight structures depends especially on a successful, equal and simultaneous cooperation of all those involved in the planning and design process right from the beginning. The AQ-S will provide a basis for discussion and a collection of arguments to pass the phases *Initiation* and *Planning* as well as the phase *Utilisation (Evaluation)* of the six-stage building-life-cycle.

Initially, this requires the already described identification of the most important relationships in the system *architecture*, the elaboration of appropriate tools for empirical collection of quantitative and qualitative data. The next step is applying a reasonable mathematical model for analyzing and linking these in its essence very different data.

The intention is to obtain an understanding of how the system behaves and at which point it needs improvement.