بررسی امکان استفاده از قطعات موسیقایی به عنوان منبع تولید ایده فرم کالبدی

مطالعه موردی: الگوسازی کالبدی قطعه کرشمه از دستگاه چهارگاه

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چکیده

فرم کالبدی به عنوان عنصری کارآمد، حامل اطلاعات ارزشمندی است که به صورت مستقیم و یا از طریق ترجمه قابل دسترسی است. شکل‌گیری فرم نیز خود حامل اطلاعاتی است که به صورت مستقیم و یا از طریق ترجمه قابل دسترسی است. در این مقاله به دنبال تلاش برای ارائه یک ترجمه مناسب متناظر مولفه‌های موسیقایی به عنصری شکلی در طراحی محصول است. این ترجمه با استفاده از یک ترجمه توصیفی-تحلیلی انجام شده است. در این مقاله ارائه یک ترجمه مناسب متناظر مولفه‌های موسیقایی به عنصری شکلی از طریق الگوسازی یک قطعه از دستگاه چهارگاه انجام شده است. این ترجمه باعث ایجاد یک دستور زبان مسیر موسیقی به عنصری شکلی می‌شود که می‌تواند به طراحان و طراحین محیطی کمک کند.

واژگان کلیدی: الگوسازی، فرم کالبدی، ترجمه متناظر، مولفه‌های موسیقایی، عنصری شکلی.
The Possibility Study on Musical Pieces Utility as a Source of Physical Form Ideas
(Case Study: Physical modeling of Kereshmeh piece from Chahargah instrument)

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Abstract:
In recent decades, design processes become a common manner to create architectural and urban forms. According to the scientific basis of those processes, visual forms, needs and context are being noticed as the most important items. Needs and context have a quantitative attribute and working on them are very simple, but visual form is different. The aesthetic parameters have an essential role in judgment of the form audiences and unfortunately those parameters have not a certain definition. Thus in the design processes, those two other items mostly noticed and used. Given that physical modeling has been considered as the last aspect of design processes, the form as a precious element, carrying a valuable information which has been accessible directly or indirectly. In order to reduce the design process execution time, developing a proper form giver system will occur. At the other hand, the diversity of inspiration sources in physical modeling and lack of scientific approach cause a kind of uncertainty in design processes. The aim of this research is introducing the music as a valuable source of developing a new formal design method. In order to create a visual form, music and architecture have used mathematical ratios over the history. From past to present, there have been an interdisciplinary interaction between music and architecture, the reason of which is the pursuit of aesthetic continuing for centuries.
In this research, feasibility of translating musical components into formal elements has been investigated and the analytical descriptive method was used creating a parametrical correlation between music and its formal modeling that needs an efficient compiler which can translate corresponding components to each other. The research process began with precedence studies of architectural works that are influenced by various fundamentals of music as well as architectural works that inform musical compositions. A comparison was then made between these works in order to understand how these musical elements have been translated into the formation of a space. The first act to transform musical piece to form is to perceive the piece thoroughly. Every piece is consisted of repetitions in itself. Such as a fractal fiction, tonal or atonal, small pieces are the portrayal of total. For this reason, within the frame of the thesis, an analysis in conformity with the process of creating a visual form has been developed. This analysis will be a reified version of aforementioned analyses. Also, a short piece of Iranian traditional music was translated to its corresponding physical model as the case study of this research.
Based on this research, a new compiler model has been presented, which has three stepwise phases. The first step proceeds a comprehensive identification of two realms, music and physical modeling. At the second step, corresponding components have been recognized and the last step consists of translating components from the music to appropriate form. In order to examine the new model, the Kereshmeh piece from Chahargah instrument has been translated to its corresponding visual form. Consequently, it can be concluded that sound is space and space is music.

Keywords: Modeling, physical form, Corresponding translation, musical components, formal elements.