

Using Unconventional Design Methods in Difficult Building Conditions as a Post-Digital Strategy towards a Precise Architecture

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Abstract

The new architectural forms that digital design methodologies can give frequently seem incompatible with the required accuracy and control in building, especially in poor countries where there are few modern implementation tools available. This paper makes the suggestion that you use design practise indeterminacy as a remedy. The post-digital design practise technique, known as "an exact architecture," gives a convergent diagram of looking for the possible design solution space. In order to create a rigorous produced product that can accommodate project-specific quirks and limits, it depends on procedural parametric modelling to continuously combine computation and humanization.

Keywords: Architecture; Construction; Design

Introduction

The use of digital applications in architecture has dramatically increased over the last few decades, giving architects more control over the conception and execution of projects. The development of novel architectural shapes no longer excite today's architects because they have access to digital resources. They are eager to use computation to integrate architectural design with matter, materials, and materialisation as well as to bridge the gap between the virtual and real worlds. It may be argued that this paradigm change ran counter to Albert's adage that "the design is the original, but the building is the copy." Modern digital architects are increasingly creating and manufacturing simultaneously because they can avoid the dividing line that traditionally existed between conception and construction. [1, 2].

The difficulty of projects in the post-digital era

Derrida is credited with coining the phrase "anexact." It primarily addresses ambiguous morphological categories that give rise to a pre-geometrical descriptive science. Since it is neither precise, which deals with ideal essences, nor inexact, like sensible things, "anexact" provides a different feeling from the fixed, metric, and formal essences, according to Deleuze and Guattari. The term "anexact architecture" refers to a situation that no longer considers information technology to be new media. Instead, it frees the term "digital" from its technological-scientific or media-theoretical connotations. Like the transition from Modernism to post-Modernism, post-digital is more of a cultural change. Post-digital art rejects the common concept of high-tech cleanliness, but it also has its own aesthetic perspective [3, 4].

By no longer displaying "digital" as a working approach on purpose, this post-digital architectural design practise seeks to increase the transparency of the technology used by project participants. Post-digital architects can achieve multiplicities beyond just design simulations and productions by improving the synthesis of virtual and actual. They can also further integrate with new and old crafts, materials, and technology for collective intelligence. Anexact architecture serves as a representation for the post-digital idea that takes humanization in computer design processes into account. It places an emphasis on real-world issues and accounts for human implications during design delivery rather than glorifying technology capability [5].

The goal of an exact architecture, as a post-digital design practise strategy, is to moderate complexity according to the particulars of

each project. Mitchell described project complexity in the digital age as the ratio of "added design content" to "added construction content," which was further translated as the design effort required creating enough information for fabrication and construction activities. Project complexity would ideally fluctuate in a CAD-CAM setting since design content could be converted digitally and instantly into construction content. In developing nations, where advanced fabrication tools are prohibitively expensive, this is uncommon. An exact architecture relies on the authorial upheaval of post-digital architects in response since they will have a quick mind-set while managing project complexity. This approach advises architects to accept contextual constraints while taking advantage of implementation. The key adjustment is not to simplify building geometry in the post-digital era, but rather to use a heuristic method to incorporate real-world issues into design delivery [6, 7].

Features of an accurate architecture

In terms of methodology, Crolla's "vibrant objectile"—which capitalises on the open-endedness of parametric procedural modelling to address the non-digital components of design materialization—gives anexact architecture its operating qualities. Vibrancy, on the other hand, refers to significant degrees of uncertainty brought on by complex design specifications and poorly defined design issues. Only by allowing the uncertainties to re-interact with the design process will the volatility of project materiality, material systems, and materialisation be resolved. On the other hand, the concept of a "objective" denotes an endless variety of variations that may be handled by strict algorithms [8, 9].

Conclusion

The reflective design process of three out-of-the-ordinary projects

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is used by the writers to examine the strategy of an exact architecture. By combining a PAR-based design methodology and precise thinking, the authors increased their understanding of how to manage project complexity from one scenario to the next. By using parametric procedural modelling, the authors were able to "plan" design problems based on parametric relations, "act" by experimenting with different design options, "observe" conflicts and opportunities that resulted from the contextual peculiarities, and finally "reflect" on the design solutions. The project's materiality and materialisation issues are at the heart of this back-and-forth design optimization. The design delivery process will converge as the project develops because each study cycle will result in the unworkable design options [10].

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Declaration of interests statement

The authors declare no conflict of interest.

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