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Real-Time & Development - Applying Computation to the Design Process

Engaging with computation provides the architect with new powerful tools and methods. The computerization of the profession has already yielded a new paradigm of thinking on communication and documentation in construction. The early creative stages of the design process are longer from fruition. I want to address this issue in my research.

You can perceive the design process as an oscillation between generative and evaluator operations. At one level this is an ongoing battle in the mind of the designer but this description also applies to the iterative sequence of design revisions incorporating client or collaborator input. Computational design brings a potential to shorten the cycle time of these iterations to the point where it transforms the role of the architect from being an expert consultant secluded in her studio into a real time moderator of the feedback loop between client and design. This intensified sensitivity towards the client in concert with new possibilities for evaluation of building performance in terms of environmental loads and efficiency of use will result in buildings being optimized during their formation rather than as an afterthought.

Creating the infrastructure required to facilitate this group thinking will require a separate organization with a focus on the development of these design/business models. This will polarize the dual work modes for architect consultants - realtime and development. I am thrilled by the prospects of this polarization and want to integrate knowledge from related fields such as participatory design and software development into architectural practice in order to develop theories, tools and methods in aid of both work modes with a basis in computational design.