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Published in:

Structures & Architecture: A viable urban perspective?

DOI:

<https://doi.org/10.1201/9781003023555>

Publication date:

2022

Document Version:

Peer reviewed version

[Link to publication](#)

Citation for published version (APA):

Hvejsel, M. F., Ahues, W., Stumpf, M., & Wyller, M. (2022). Prototyping Collective Gestures: Reworking the way and the work of architecture. In M. F. Hvejsel, & P. J. S. Cruz (Eds.), *Structures & Architecture: A viable urban perspective?: Proceedings of the Fifth International Conference on Structures and Architecture (ICSA 2022)* (pp. 305-309). CRC Press/Balkema. <https://doi.org/10.1201/9781003023555>

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Prototyping Collective Gestures: Reworking the *way* and the *work* of architecture

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ABSTRACT: Progress towards a viable development of the built environment entails a series of interdisciplinary challenges that needs to be addressed collectively. In architectural practice, these challenges necessarily call for a reworking of our *ways* of working (how and with whom do we collaborate?) as well as the *work* of architecture itself (how and with what do we built?). With this ‘Critical Practice’ submission, the prototype itself provides a view into how this necessary rework takes shape as a collective ‘bottom up’ effort in the practice of David Chipperfield Architects. By mapping out the interdisciplinary knowledge gathered in and of the prototype, we discuss its critical potential towards gradual change of the confining conditions of ‘usual practice’. The prototype in question, developed as a competition entry for Hufelandstraße in Munich, exemplifies how the individual competencies of each team member can be activated collectively in reworking the resourcefulness of the entire body of architectural construction.

1 INTRODUCTION: THE QUEST FOR REWORK

The work of David Chipperfield Architects is acknowledged for its permanent quality manifest in durable materials; concrete, stone, and bricks conjuring up that which is already there in ‘archaically modern’ (Frampton 1997, p. 7) spatial gestures such as in the Neues Museum. Gestures that are rooted in Chipperfield’s individual architectural imagination but simultaneously form critical keys to a collaborative interdisciplinary effort (Schad 2021, Hvejsel 2018). However, as the current challenges facing architectural practice presents us with a quest to completely rethink the resourcefulness of architectural construction, the question arises how to continue this effort?



Figure 1. Hufelandstraße competition entry, prototype interior. © David Chipperfield Architect Berlin.

Inequality, climate change, and resource scarcity call upon us to understand *'buildings not as individual spectacles but as the manifestations of collective values and as settings for daily life'* implying a need to expand our field of action towards improving the collective gestures of everyday structures (Chipperfield 2012, foreword). In addition to that of improving the environmental sustainability of architectural construction as such, this entails that we react to the *'tendencies of our time that place such emphasis on individual and isolated action'* as stated by Chipperfield (Chipperfield 2012, foreword). Hence, these challenges call for rework of the *ways* (how and with whom do we collaborate?) as well as the *work* (how and with what do we built?) of architecture. As summarized by Eva Schad, partner at DCA, responsible for quality and human resources development and project leader for the Neues Museum; *'Architecture is collaboration, I learned that observing how David managed to gather the best specialist. The current challenges call upon us to concentrate even further on collaboration'* (Schad 2021). With this submission to the new Critical Practice format at ICSA2022, the prototype itself provides a view into how this necessary rework takes shape as a collective 'bottom up' effort in DCA's practice. Methodologically, this is done by mapping out the interdisciplinary motivations, competencies and knowledge gathered and integrated in and of the prototype hereby enabling a discussion of its critical potential towards gradual change of the confining conditions of 'usual practice'. Consequently, the prototype exhibited at the conference is accompanied by a timeline providing an overview of this 'knowledge map', the findings, and perspectives of which are summarized below. The prototype in question was developed as an entry for a typical competition for a mixed-use high-rise and urban development project at Hufelandstraße in Munich, where the interdisciplinary team aimed at a reworking the resourcefulness of the entire body of architectural construction. Hence, the prototype exemplifies what the quest for rework entails in practice and is analyzed here as to identify the potentials and challenges governing this effort towards viable *ways* and *works* of architecture.

2 FINDINGS: PROTOTYPING COLLECTIVE GESTURES?

As *way* of working, the Hufelandstraße competition team brought together classically trained architects, structural and environmental engineers and architects specialized in computational design and digital fabrication from the very beginning of the process. A process that started with a retrospective analysis aimed at gathering foundational knowledge related to the state of the art of timber-hybrid construction. In this initial retrospective phase, the team consulted teams of previous competition entries now in construction including an ongoing project at Richard-Strass-Strasse, raising questions concerning the lessons learned. This analysis provided a framework for identifying the field of action towards improvement of the timber-hybrid as such, but also for identifying and activating the specific competencies of each of the team members, which proved highly motivating for all. For the structural and environmental engineers this meant activating structural and material technical principles in the very early sketching phase alongside the architects being challenged to simultaneously translate the distinct spatial gestures that characterizes the trajectory of DCA's work into new viable material combinations (Kaim & Stumpf 2021, Wyller et.al 2020). The implementation of digital technology as well as critical application of interdisciplinary knowledge stored in contemporary and historical references, such as the work of Block Research Group and Pier Luigi Nervi became key to this way of working (Block 2022, Vindigni 1956). In this matter, the 'knowledge map' accompanying the prototype in the exhibition represents an attempt at outlining a systematic way of recording previous works, references projects, and knowledge affiliated with the prototype from the point of view of each of the team members. As a timeline, the map allows each of the members to identify their own trajectory of work as part of a larger collective effort towards a viable development of the built environment.

As *work*, Hufelandstraße pushes the state of the art of timber-hybrids as each material is applied according to its structural properties while simultaneously being active in formulating novel improved spatial gestures in the multi-use high-rise. In this matter, the team shared an initial motivation to improve the environmental sustainability of architectural construction by means of the

timber-hybrid. The distinct Y-shaped plan of the volume was motivated in analysis of the urban context and the mixed-use program, providing inviting urban gestures while making it possible to take advantage of the strengths of each material. In the upper floors, the exposed load carrying timber hybrid structure increases indoor climate and perceived room height when compared to a regular concrete slab system. Simultaneously, the aesthetic quality of the natural material provides identity and intimate gestures within the offices and hotel rooms. At ground level modular concrete cast slabs transfers the vertical loads from the timber-hybrid construction system to a concrete slab system (Kaim & Stumpf 2021). To save material, the concrete is placed following the force flow between the two construction systems producing the distinctive ornamented pattern. This principle is based on the works of Block and Nervi but developed here towards modular implementation, employing digital programs as important means of communication between architects and engineers. Finally, the lightness and modularity of the metal façade secures durability of the volume, by allow repair and reuse of parts of the facade if needed. Summarizing, the prototype opens a series of perspectives towards further development of resourceful principles of architectural construction rooted in the distinct gestures characterizing the trajectory of DCA's work (Chipperfield 1994 p. 46-48, Hvejsel 2018 p. 403). In this matter. The 'knowledge map' opens a potential to systematically raise questions towards implementing Critical Practice, individually and collectively: How far did the Hufelandstraße project take us, what collective gestures can we imagine for future projects? How can we concentrate our individual and collective effort towards gradual change of the confining conditions of 'usual practice'?

3 PERSPECTIVES

As a competition entry, Hufelandstraße, was conducted under 'usual practice' conditions and the competition was eventually lost, which is a constant risk when proposing a critical change of practice. However, by analyzing its prototypical qualities, we have outlined a direction for how to gather and cultivate knowledge systematically despite a lost competition. In our conception, this way of working opens a potential to think critically of our everyday work as informed steps towards gradual change of these conditions, rather than as spectacles in and of themselves. In this matter, the decision to join forces across academia and practice in this Critical Practice submission after the competition represents a common aim to seek ways of gathering the knowledge stored in prototypes. As described by Chipperfield, *'the solutions cannot be found in a single project... It is only by acting collectively that we will find our voice in those critical conversations.'* (Chipperfield 2019). In conclusion, the 'knowledge map' implies a method for integrating critical thinking into our practice, hence for consciously growing our impact as individuals and collectively.

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