URBAN ASSEMBLAGE: THE CITY AS ARCHITECTURE, MEDIA, AI AND BIG DATA.

• Paper / Proposal Title:
The Historicist and the Algorithm: An exploration of 3D printed clay columns based on the architectural languages of Glyptoteket in Copenhagen

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• University or Company Affiliation:
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• Abstract (300 words):
As we advance further into the digital age the built environment increasingly reflects the digital processes that shape it, and digital culture is fast becoming a symbol of our time. Structural efficiency, material optimization and automated processes are themes synonymous with digital and parametric architecture and are widely reported on by research environments within the field. Research that expands our understanding of the formal language and wider cultural meaning of this type of work and how it fits within existing historical contexts forms a much smaller part of the field and this paper aims to contribute to this important discussion.

The paper reports on a series of 3D printed ceramic columns constructed as speculative ‘Research through Design’ pieces using Glyptoteket Museum in Copenhagen as the site for the experiment. The research offers a new perspective on how historicist design principles can be used in the digital age and presents an exemplar of the use of parametric design tools where the driver of the form and expression of the pieces are
rooted in the geometries, motifs, materials and architectural languages found within the museum building.

This research aims to address the frequent criticism of architectural work considered part of the digital epoch that is often accused of lacking sensitivity to existing historical and cultural context. By using historicism as a foundation to design site specific 'design artefacts' in the form of architectural columns, the project pivots on the historicist ambition of being attentive to the relationship between cultural condition and artistic expression.

Using Kenneth Frampton's identification of the 'tectonic' as a locus point to discuss the symbolic and technical aspects of architectural form simultaneously, the findings of the paper report on how parametric design tools, an unruly material such as clay and an underlying set of historicist design principles can produce architectural elements that have the capacity to represent the digital epoch whilst being site specific and appropriate in a historical context.

• Author(s) Biography (200 words each):

**Suzi Pain** is a PhD fellow and assistant professor at The Royal Danish Academy (Det Kongelige Akademi) in Copenhagen. Her research project - The Developed Surface explores the design and integration of parametrically designed and 3D printed ceramic elements in historic buildings. The central aim of the project is to explore bridging historicist and parametric design principles in order to develop methods of producing contextually aware and digitally advanced architectural expression.

Suzi is trained as an architect and applied artist and has worked in practice in London, Switzerland and Denmark and conducts her research using a Research by Design methodology strongly influenced by a background that has always centered around thinking through making. Since 2011 she has worked in academia alongside work in practice teaching architecture, interior architecture and spatial design at Kingston University, Middlesex University and The Royal Danish Academy.