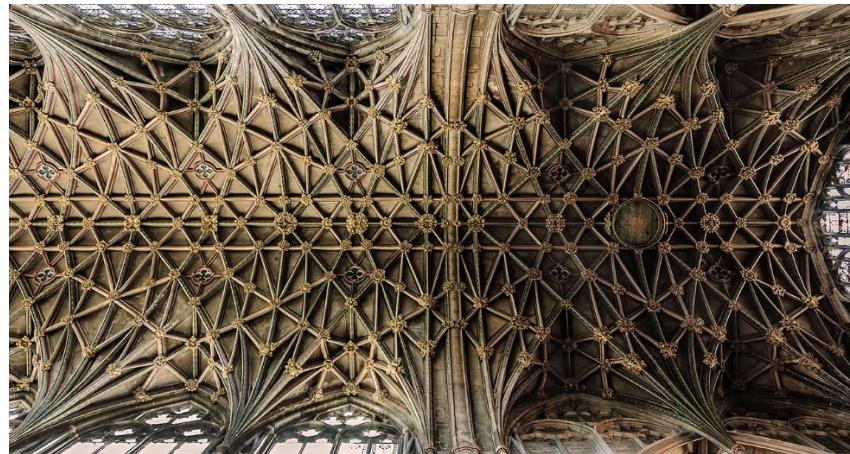


Cornell University Department of Architecture
Professor of the Practice: Martin Fields Miller
Option Studio Spring 2019 / MWF 12:30 – 4:30 pm / 6 Credits

CRIMINAL BEHAVIOR: Ornamental Exuberance through Efficiency



Gloucester Cathedral

In 1908, the use of ornament as an architectural element was declared a criminal act within architecture by Adolf Loos in his essay *Ornament and Crime*. Loos argued on behalf of the craftsman claiming that, “Ornament is wasted labor and hence wasted health.”¹ The principles laid out within the essay served as foundational principles for the ensuing Modernist movement that debased and all but eradicated ornament as a fundamental component of architecture.

The contemporary laborer, however, is no longer the skilled craftsman. Rather than on-site custom craft, components are produced in factories that are increasingly shifting from human labor to networked computational machines. Robotic CNC tools are programmed with routines, relentlessly repeating tasks with superhuman accuracy. While these tools offer an extreme level of precision and accurate translation from digital to physical form, completion of routines can often be very time consuming due to limitations within options for tooling. A smooth surface requires the creation of dense tool paths and hence long production times and loss of efficiency, for example. These routines are most frequently the result of standard processing algorithms, removing the role of the designer within the process of physical manifestation. Similarly, processes utilizing subtractive, CNC milling operations often involve excessive waste of material further losing efficiency.

Through intervention in this established system, new kinds of functional ornament may be introduced, having massive consequences for manufacturing processes, material efficiency, and the architectural expression of our emaciated built environments.

The studio will reconsider the value of ornamentation in architecture, considering logics of both expression and the functional potential of ornament. We will explore historical models of ornamentation and their significance as expressive, communicative, and pragmatic elements within the movements of the Gothic, Baroque, and Art Nouveau. Simultaneously, the studio will question ways in which the conceptual expression of ornamentation may be efficiently produced via digital fabrication techniques and computational formal generation. Exploring ideas of the digital craftsperson, concise tool selection and deployment will intervene within the fabrication process, resulting in patterning and texture as remnant traces while generating computationally efficient form.

Through the understanding of part to whole relationships, fabrication processes, and computational generation, students will progress through two dimensional aperiodic tiling systems into generative structural assemblies. Looking to historical structural models and spatial organizations, the final construction will be a small contemporary chapel.

1 Loos, Adolf. Ornament and Crime, 1908.