

The Strange Loop

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In music, the strange loop, refers to the phenomenon in which a pattern set by a composer is then broken only to return whole again, as in Bach's canons. As Hofstadter remarks, implicit to the concept of the strange loop is the concept of infinity, since "what else is a loop but a way of representing an endless process in a finite way?" As seen in Escher's 'Metamorphosis', infinity plays a large role. Copies of one single theme often fit into each other, forming visual analogues to the canons of Bach. Through a process of incremental mutation, various taxonomies were developed. The following of a 'paste special' methodology lead to the breeding of multiple offshoots. The outcome became in itself, an abstracted strange loop of tectonic permutations.

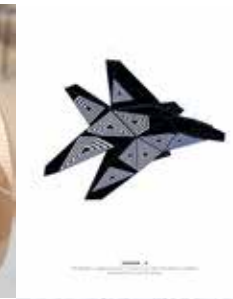
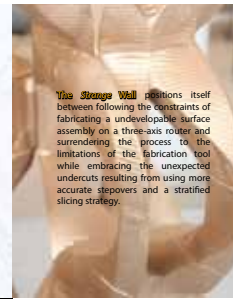
Using CATIA, a total of 66 cells with variable inputs were instantiated within an armature via a knowledge pattern that automated the insertion of each user-defined-feature (UDF). Each UDF morphed function of the knowledge pattern that linked the coordinates for the insertion points to inner parameters controlling the resolution of the base unit. Eight sheets of high-density foam were flip-milled and joined with a two-part epoxy adhesive. Following assemblage, the installation was coated with thin layers of latex primer and gold metallic paint.

The tool path pattern conducted in relation to digitally assisted analytic methods is a study in the creation of ornament that learns from

the geometric mass. Surface curvatures, sizes, and normal forces became the focus of our computation method. Various scripts were developed to aid the visualization of this surface data. The 2D pattern is then mapped to the correct UV points on each surface while taking into consideration accessibility for the CNC tool head. The tessellation process is then applied based on the thickness and step-over values mapped to each tool. The resulting pattern was programmed as a customized tool path in the Power Mill software, embedding memory of data mapping and fabrication processes into the final product.

The moiré effect created by the friction of the striped patterning amplifying shadows accentuate the perception of the wall as landscape, or territory, with juxtaposed rhythms and logics, and minimize the otherwise modular or composite reading of an additive assembly process.

The specific joining of the various cells becomes insignificant as the eye becomes preoccupied with the reading of the nomadic invasiveness of the various ordering systems that cut across arbolic like divisions. The inherent double entendre of ornament as both having function and affect calls for an open ended dialogue on the untrivialization of the concept and anticipates accentuated forms of interaction between the inhabited and the uninhabitable.



The *Strange Wall* positions itself between following the constraints of fabricating an undevelopable surface assembly on a three-axis router and surrendering the process to the limitations of the fabrication tool while embracing the unexpected undercuts resulting from using more accurate steppers and a stratified slicing strategy.

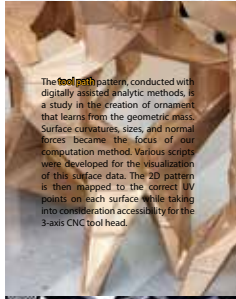
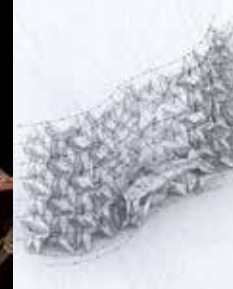
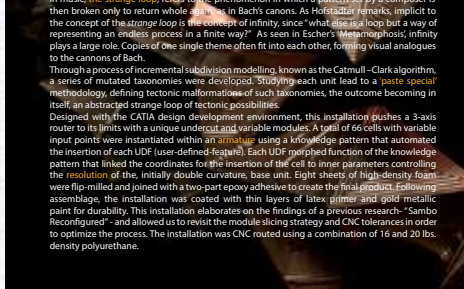
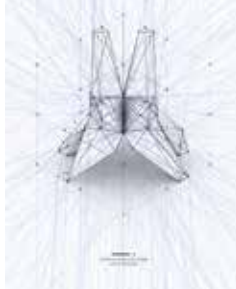
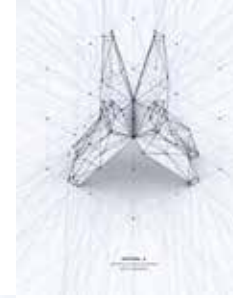


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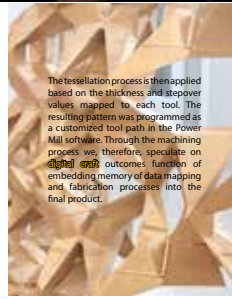
In music, the *strange loop*, refers to the phenomenon in which a pattern set by a composer is then broken only to return whole again, as in Bach's canons. As Hofstadter remarks, implicit to the concept of the *strange loop* is the concept of infinity, since "what also is a loop but a way of representing an endless process in a finite way?" As seen in Escher's *Metamorphosis*, infinity plays a large role. Copies of one single theme often fit into each other, forming visual analogues to the canons of Bach.

Through a process of incremental subdivision modelling, known as the Catmull-Clark algorithm, a series of mutated taxonomies were developed. Studying each unit lead to a "particulate" methodology, defining tectonic malformations of such taxonomies, the outcome becoming in itself, an abstracted strange loop of tectonic possibilities.

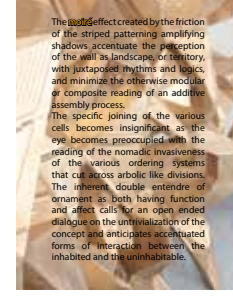
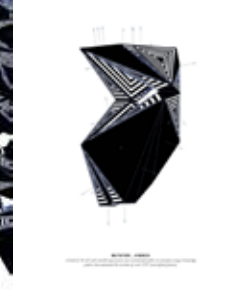
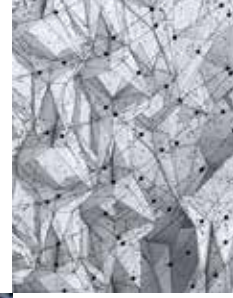
Designed with the CATIA design development environment, this installation (pushes a 3-axis router to its limits with a unique undercut and variable modules. A total of 66 cells with variable input points were instantiated within an *assembly* using a knowledge pattern that automated the insertion of each UDF (user-defined-feature). Each UDF morphed function of the knowledge pattern that linked the coordinates for the insertion of the cell to inner parameters controlling the resolution of the initially double curvature, base unit. Eight sheets of high-density foam were flip-milled and joined with a two-part epoxy adhesive to create the final product. Following assemblage, the installation was coated with thin layers of latex primer and gold metallic paint for durability. This installation elaborates on the findings of a previous research: "Symbio Reconfigured" and allowed us to revisit the module-slicing strategy and CNC tolerances in order to optimize the process. The installation was CNC routed using a combination of 16 and 20 lbs. density polyurethane.



The *test* pattern, conducted with digitally assisted analytic methods, is a study in the creation of ornament that learns from the geometric mass. Surface curvatures, sizes, and normal forces became the focus of our computation method. Various scripts were developed for the visualization of this surface data. The 2D pattern is then mapped to the correct UV points on each surface while taking into consideration accessibility for the 3-axis CNC tool head.



The tessellation process is then applied based on the thickness and stepper values mapped to each tool. The resulting pattern was programmed as a customized tool path in the Power Mill software. Through the machining process we, therefore, speculate on *digital* *and* *analog* outcomes function of embedding memory of data-mapping and fabrication processes into the final product.



The *paradox* effect created by the friction of the striped patterning amplifying shadows accentuate the perception of the wall as landscape or territory, with juxtaposed rhythms and logics, and minimize the otherwise modular or composite reading of an additive assembly process.

The specific joining of the various cells becomes insignificant, as the eye becomes preoccupied with the reading of the nomadic invasiveness of the various ordering systems that cut across arboreal like divisions. The interests, double entendre of ornament as both having function and affect calls for an open ended dialogue on the uninhabitation of the concept and anticipates accentuated forms of interaction between the inhabited and the uninhabitable.