

# Rhythmic Space: Structure and Texture in Vault Design

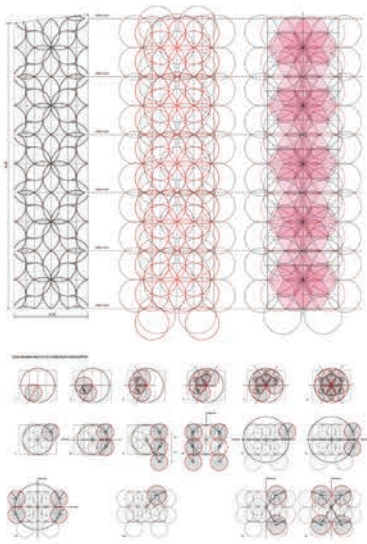
**Maximiliano Spina**  
Woodbury University

Rhythmic Space showcases a curated series of analytical drawings of case study buildings composed of complex vaulted-ceilings. These drawings have been produced by undergraduate and graduate students together with this author over two intense, consecutive semesters investigating issues of both representational media and generative geometry related to complex historical case studies. The series of buildings portrayed here go as far back as the thirteenth century, from locations as far apart as Kashan on the Persian Gulf to Stargard Szczecinski on the Baltic, and employ a wide range of spatial structures and tessellation, encompassing cellular vaulting, fan-vaulting, curved ribbing, and muqarnas, while producing figural motifs ranging from 'diamonds' to 'petals'. While disparate in their geographical and historical origins, Architecturally they offer the most advanced examples of spatial composition by means of geometrical and formal experimentation.

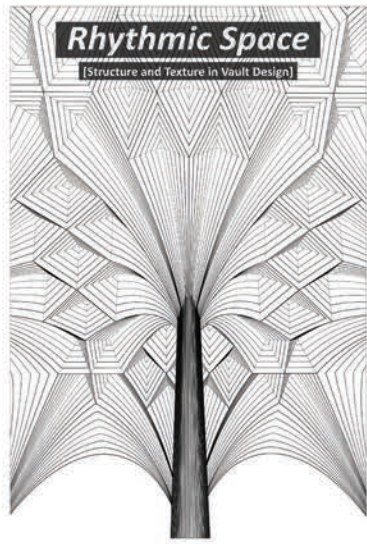
Employing vector-based techniques of representation, Rhythmic Space approaches its subject through the evolution of a precise visual syntax that connects different geometric orders through complex set of relationships. The scale transitions and measurements of the Vault's projecting ridges, valleys and ribs are marked by the dilations and contractions of a drawing technique which works right at the juncture between abstraction and figuration.

At once notational -or diagrammatic- and representational, the drawings presented here relate a manifest rhythmical play of formal issues such as curvature, planarity, concavity and convexity. By employing several drawing techniques, including notating, diagraming and multiple-directional vector mapping, the exploration navigates the unstable boundaries existing between the topographical connotation of space and the rhythmical undertone of structure. In this way, several vault subdivision themes that follow linear, periodic, symmetric and transposed composition strategies find their correlated representation through shifts in texture, density and intensity of stroke. These effects begin to imply gradient variations in light and shadow, suggesting trajectories of movement and depth.

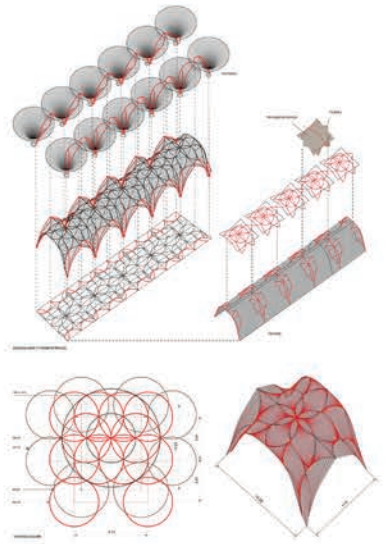
In this geometric scrutiny lies the potential for not only marking or capturing the transitory and inchoate states existing in the passage from one type of form to another, but more importantly, the emergence of a new order of topological relationships. In keeping with the fascination with the unstable boundary or threshold between structure and texture, Rhythmic Space explores the conspicuous intimacy existing between complex objects and vectorial, spatialized fields.



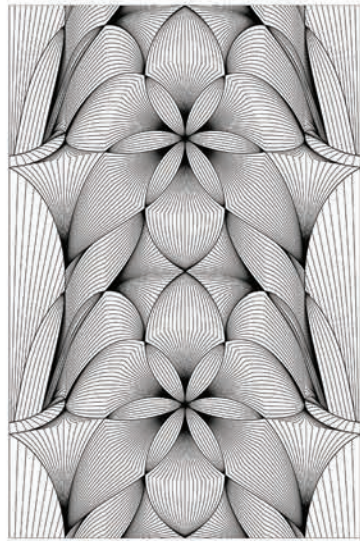
Vladislav Hall, Prague, Czech Republic, 1493-1500. Architect: B. Rejd



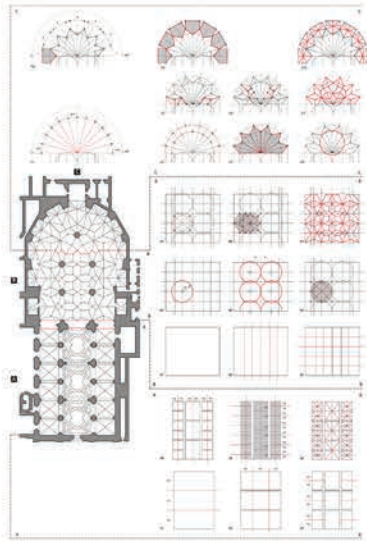
Church of the Assumption, Bechyně, Czech Republic, 1490. Architect: Z. Von Stemberk



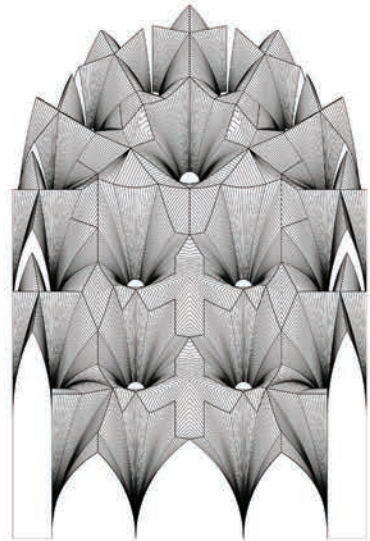
Vladislav Hall



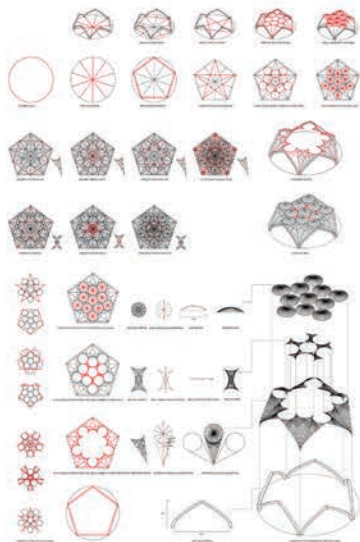
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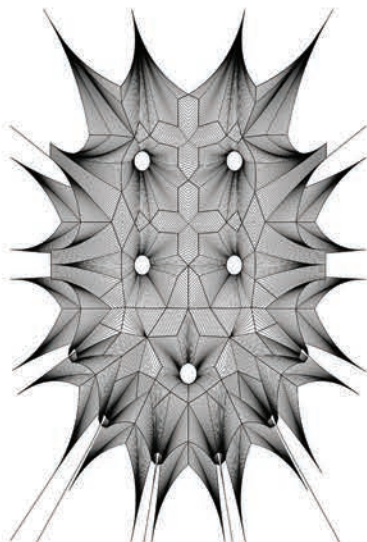
Franciscan Church, Salzburg, Austria, 1498. Architect: H. Steinhilber



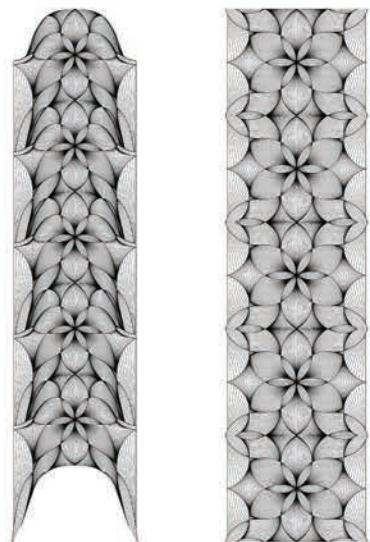
Franciscan Church



Keshi Sap Dome, Unbult, 1960. Architect: D. Aghar Shaer Bai



Franciscan Church



Vladislav Hall