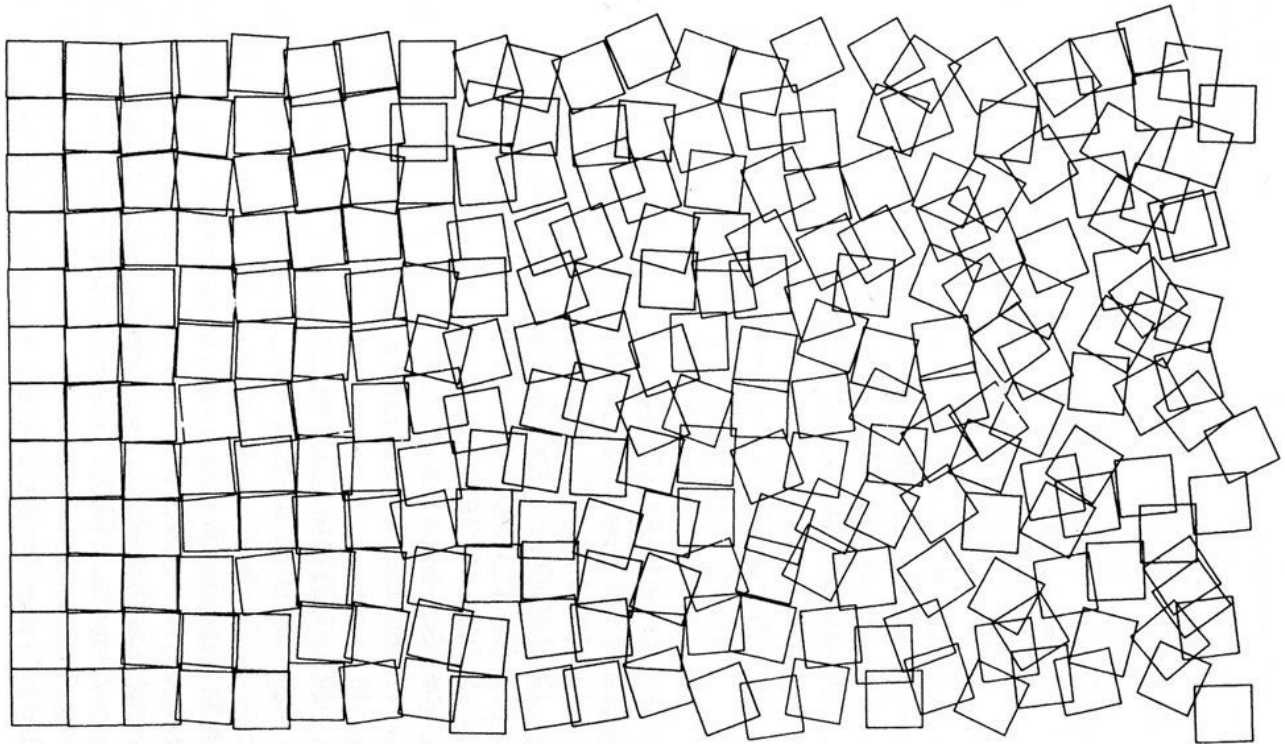# CARNEGIE MELLON —ARCHITECTURE



*Schotter from Georg Nees, 1968*

**62-706: Generative Systems for Design**
**Units: 12**
**Instructor: Jingyang (Leo) Liu**

This course provides designers from multiple disciplines with a variety of computational techniques for generating, synthesizing, optimizing and materializing design alternatives based on custom inputs. The course is project-based and organized into three components: design for generation, design for making, and design for interaction. Through lectures, labs and project work, students will learn the fundamentals of generative systems with creative applications in multiple domains, such as design, fabrication and spatial computing. Specifically, in each component, the course overviews the topics with both historical notes and technical specifications. The primary objective of the course is to help students foster the computational techniques to build generative systems for addressing design challenges. Furthermore, the course aims to equip students with the foundational skills essential for scholarly, research-oriented publications. Example topics to be covered include recursion, multi-agent systems, folding, physics-based simulations, mapping, etc.