

Shape Grammars

LIFE AS A GRAMMARIST or
A CONSTRUCTIVE INQUIRY INTO SHAPES

Constructive Aspects

Generative Process/System

Algorithmic/Computational Systems

recap: in this **course** we look at

Design

Description

Procedure

Grammar

Style

Paradigm

Transformation

Emergence

Continuity

Models

Algebra

Arithmetic

Shape algorithms

Implementation

Grammar systems

...

Weights

Sortal structures

some **key ideas** that we will touch upon in the context of grammars

life as a grammarist

the study of form as a **central enterprise**

a study of form that presupposes
a set of basic tools for *formal* **composition**

a study of form that depends
on *formal* **elements** and a **system of rules**
in the widest sense possible

being a **grammarist**

objects have **form**

space has **form**

technology has **form**

culture has **form**

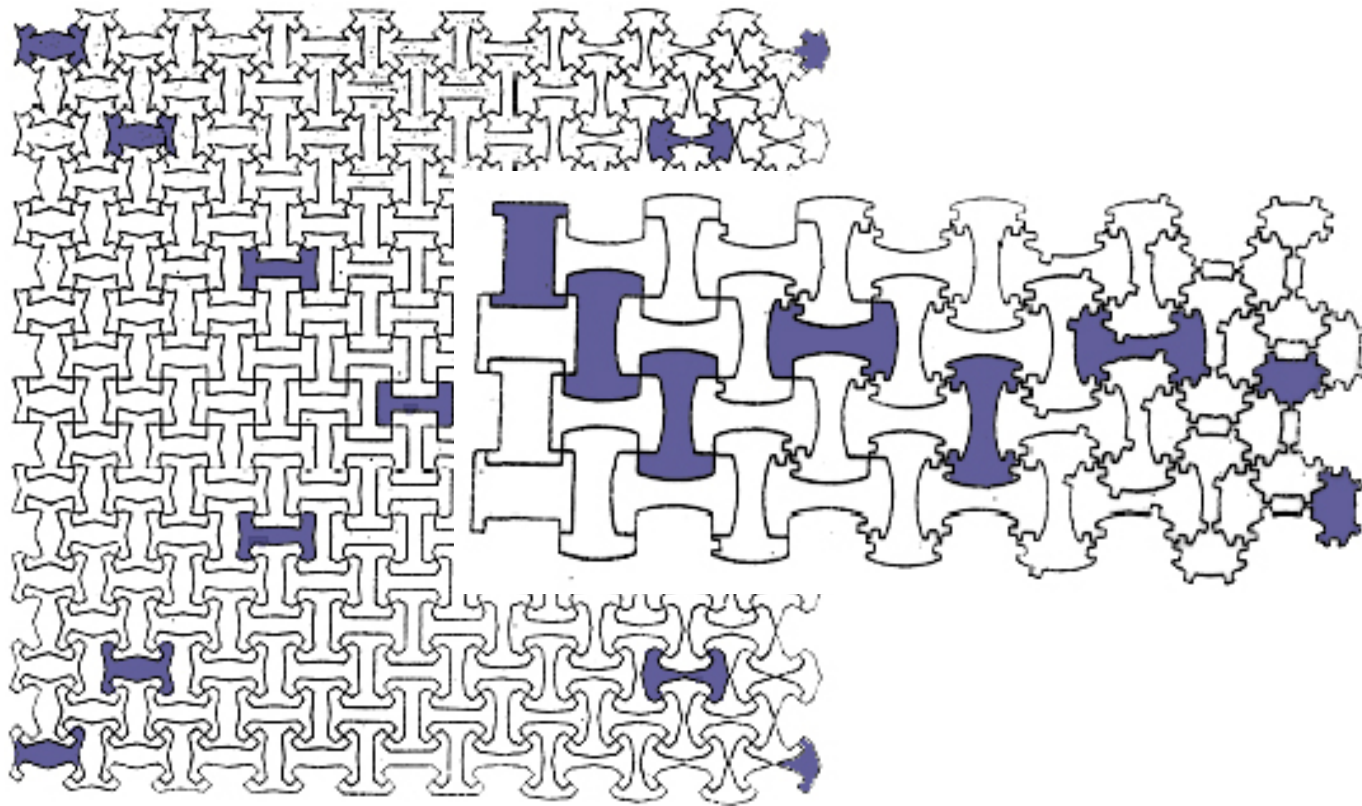
communities, societies, environments, maps and mappings – worlds
and entities, in general, all have **form**

a **grammarist** is **natural** to any world that we inhabit or interact in

is a study of **change**

entities, ideas, designs, environments etc can be
characterized - constructively - by a sequence of change
— in particular, localised **change**

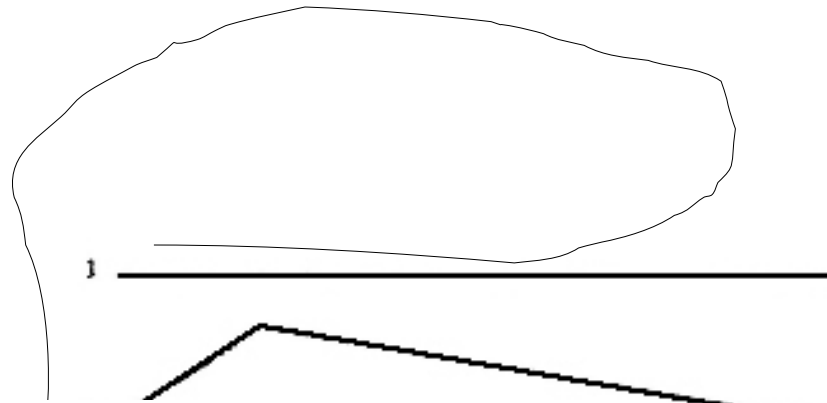
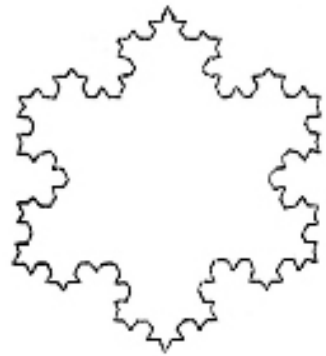
the study of form – a single dominant idea



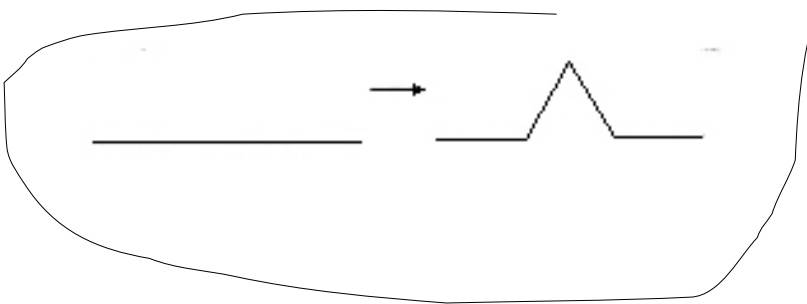
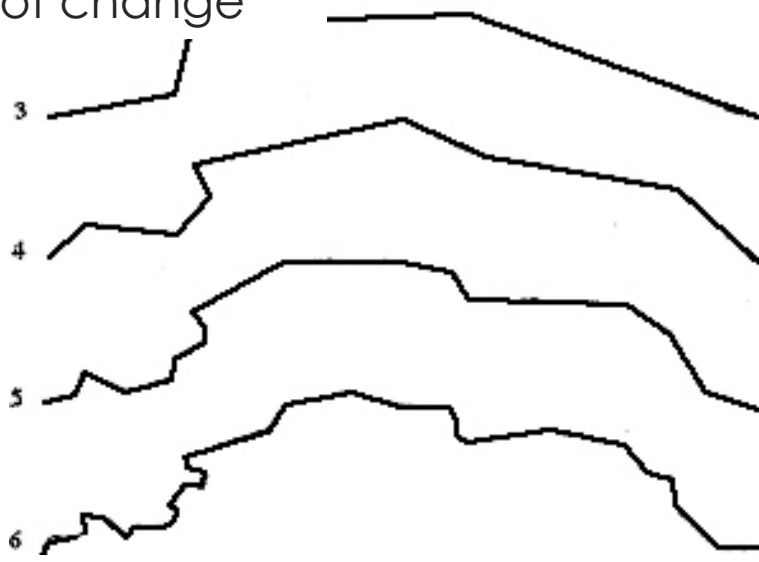
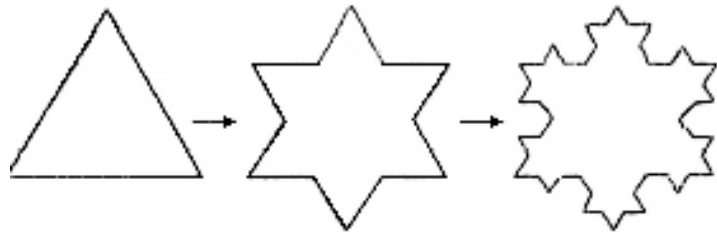
change



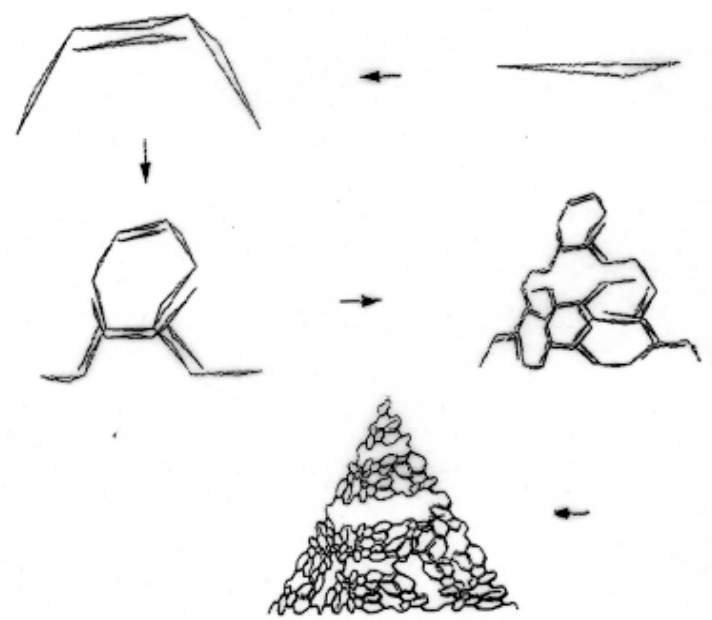
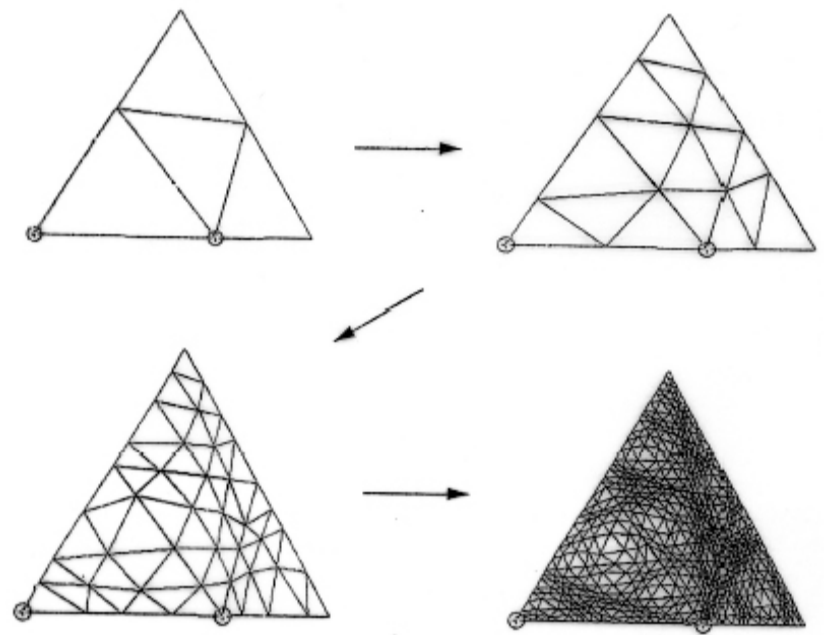
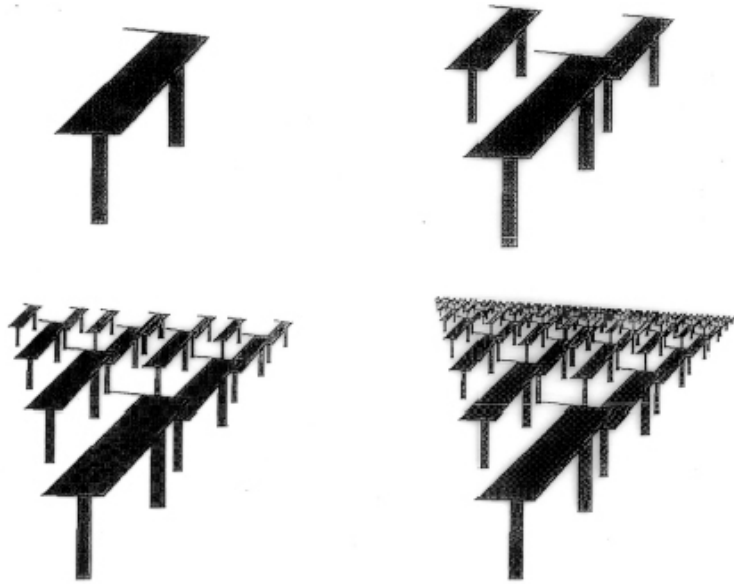
an understanding of change enables us to understand
pattern, design, behavior, agency, simplicity,
complexity, aesthetics, economy, ... beauty + nature



expressions of change



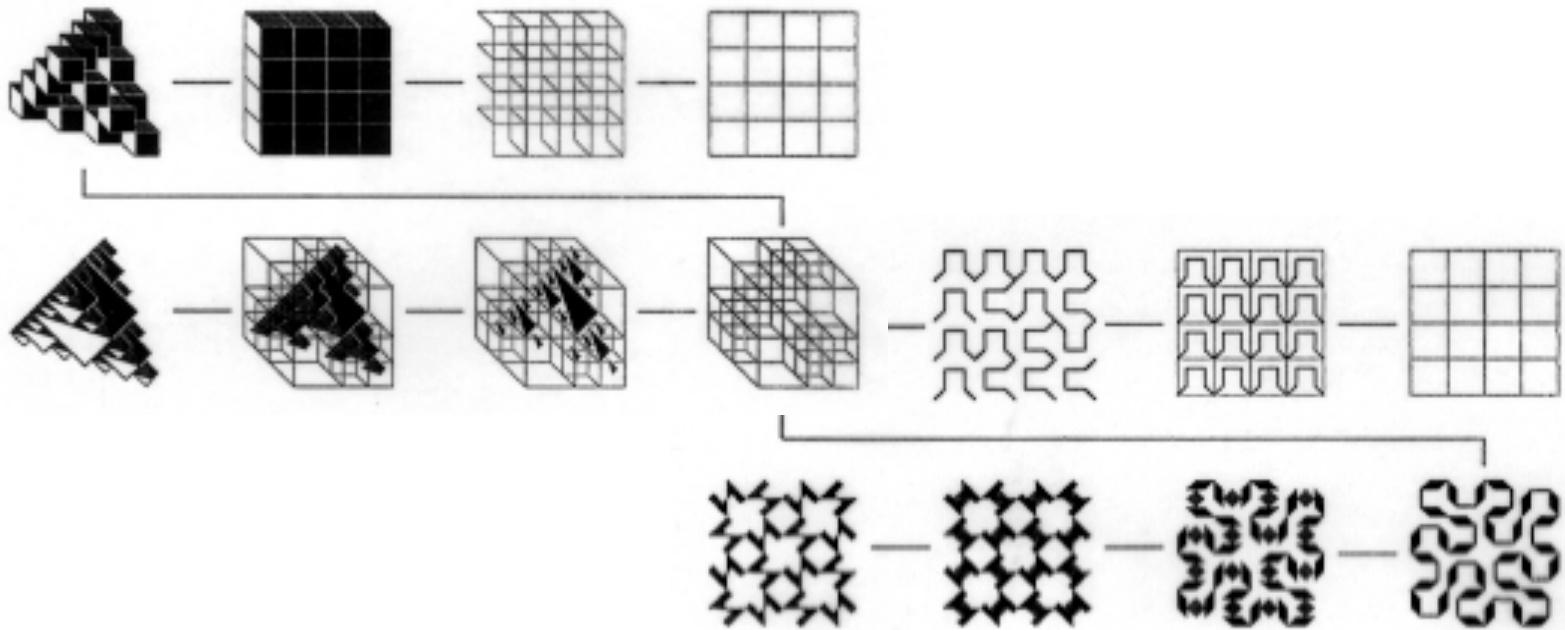
snowflakes and coastlines



change is expressed
using self-similar forms

expressing change

radically different forms **may be related**
by similar kinds of changes



more on change

computation and architecture/design
are not alien to one another



Abb. 3. Erechtheion
in Athen



Abb. 1. Zeusempel
in Olympia



Abb. 4. Erechtheion
in Athen, Nordfront

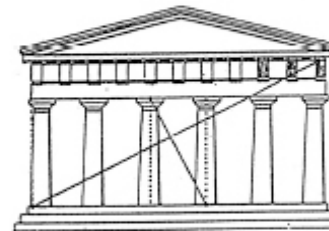


Abb. 2. Athene-Tempel auf Aegina

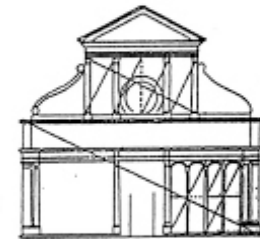
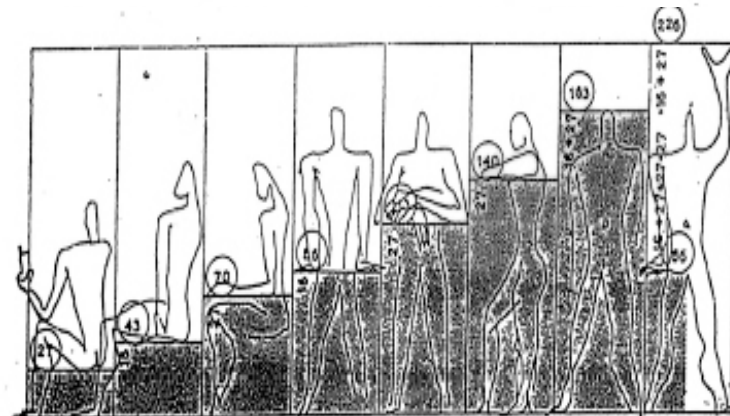
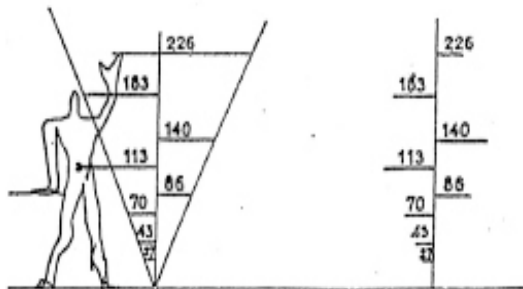


Abb. 5. Santa Maria novella in Florenz

change is computation



“the search for rigorous formulation in *design* has a much more serious motivation than mere concern for logical niceties or the desire to purify well-established methods for *design* analysis

precisely constructed models for *design* structure can play an important role, both negative and positive, in the process of discovery itself

by pushing a precise but inadequate formulation to an unacceptable conclusion, we can often expose the exact source of this inadequacy and, consequently, gain a deeper understanding of the *design* data”

inspiration – noam chomsky

go to some grammar examples