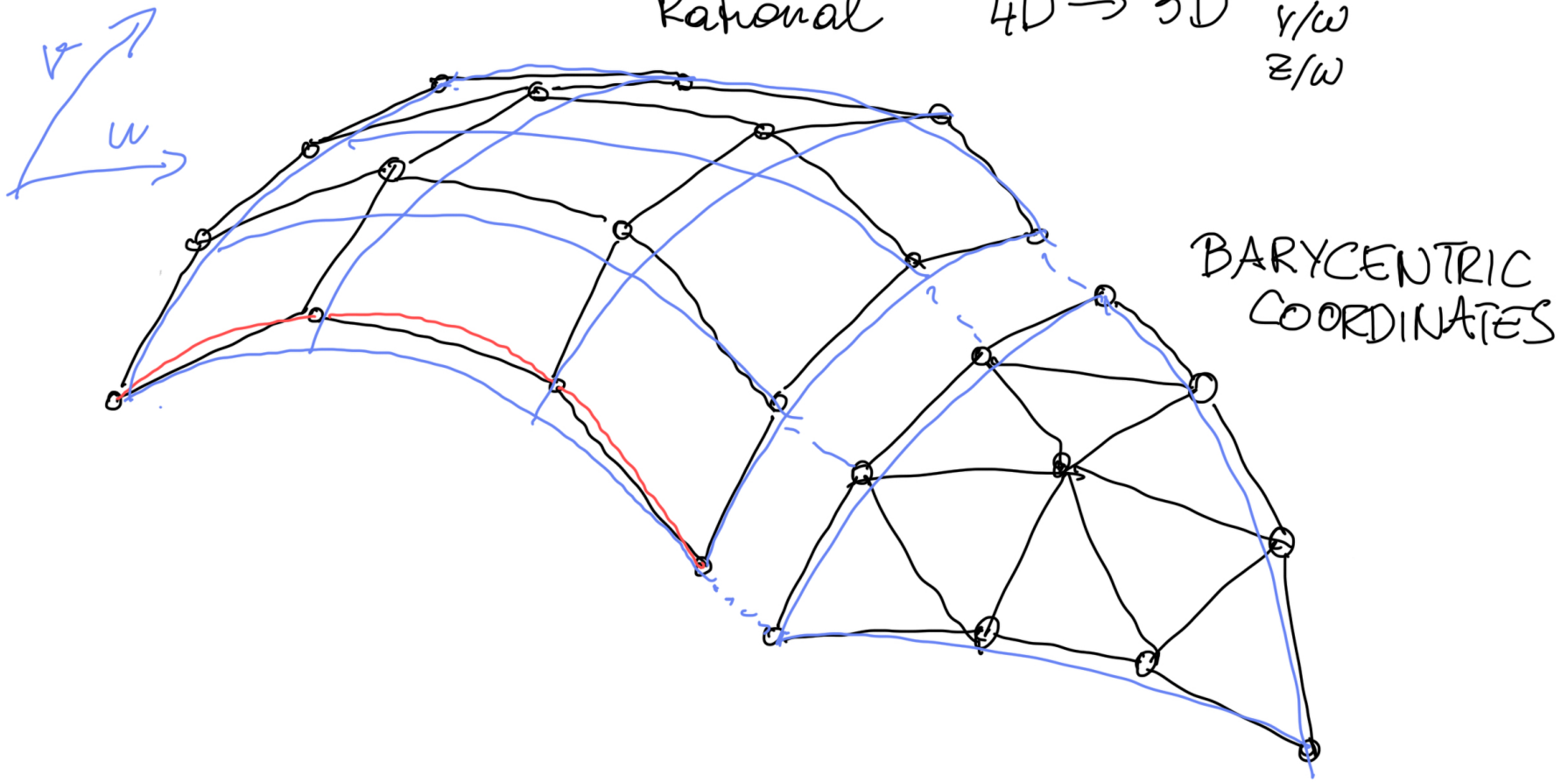
CURVED SURFACES

TENSOR-PRODUCT-PATCH

NURBS-PATCHES

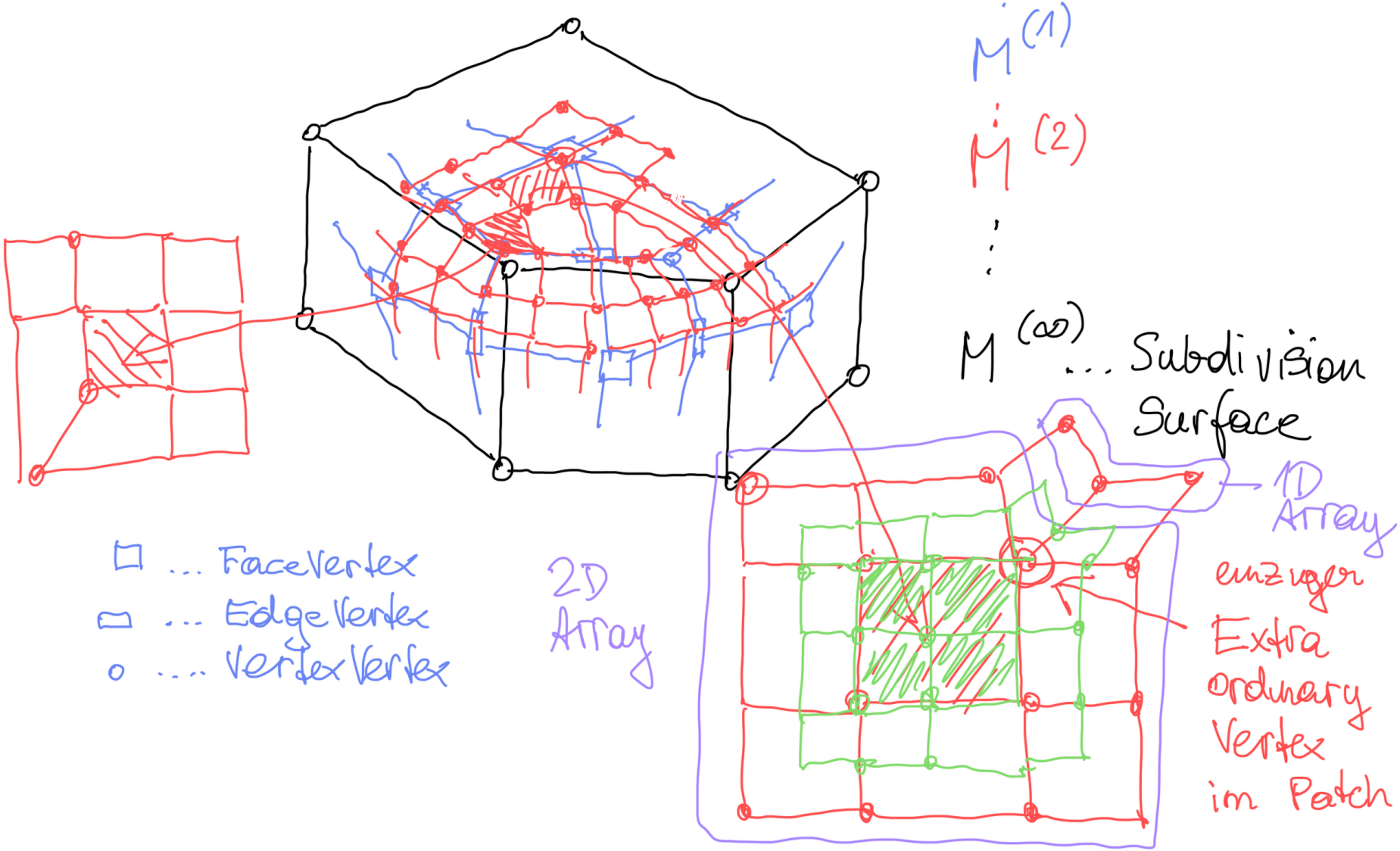
↑

Rational 4D → 3D x/w, y/w, z/w



SUBDIVISION SURFACES

Catmull-Clark Surfaces



Kantenschärfe ... s — endlich viele

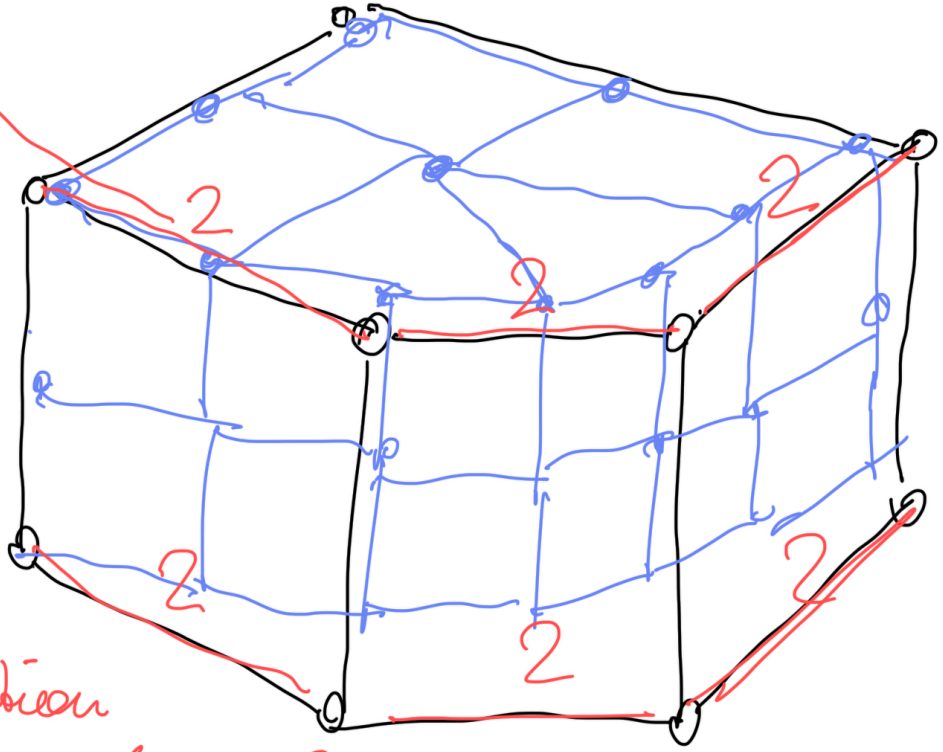
Nicht-Standard Subdivision Steps

danach Standard Subdivision

s = 2

⋮

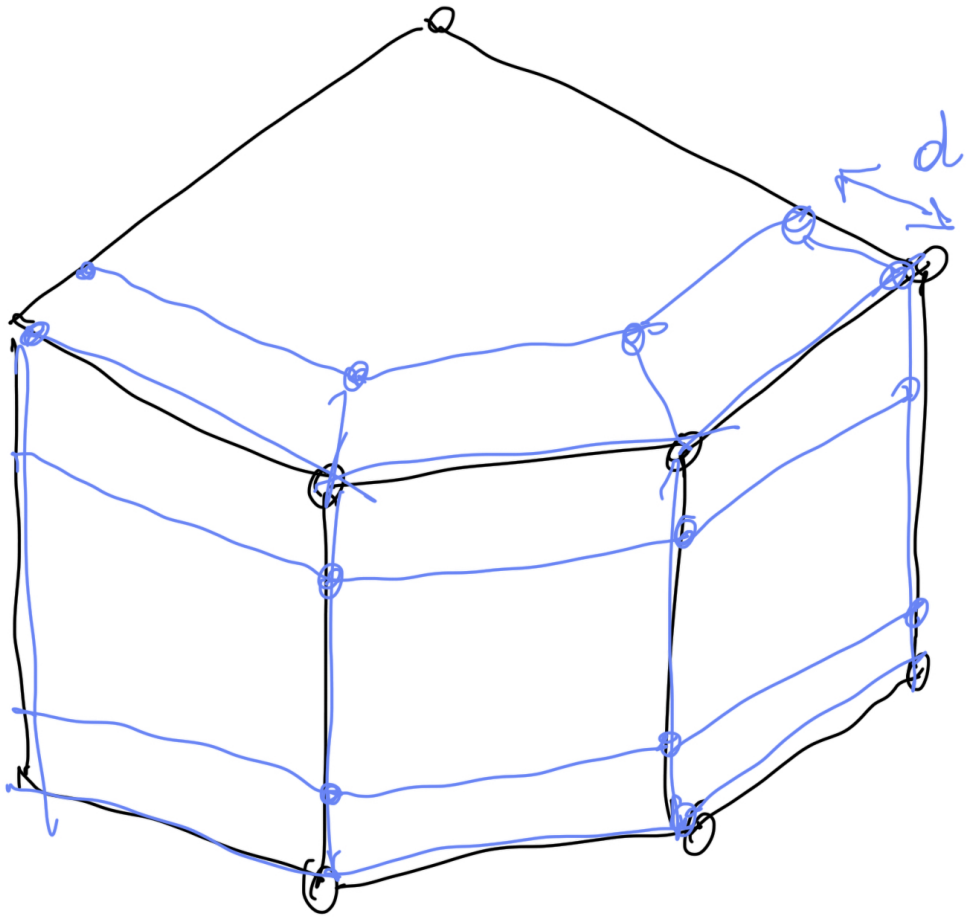
natürliche Zahlen



Erweiterung linear Interpolation

z.B. zw. s=2 & s=3

Kantenschärfe 2. Variante



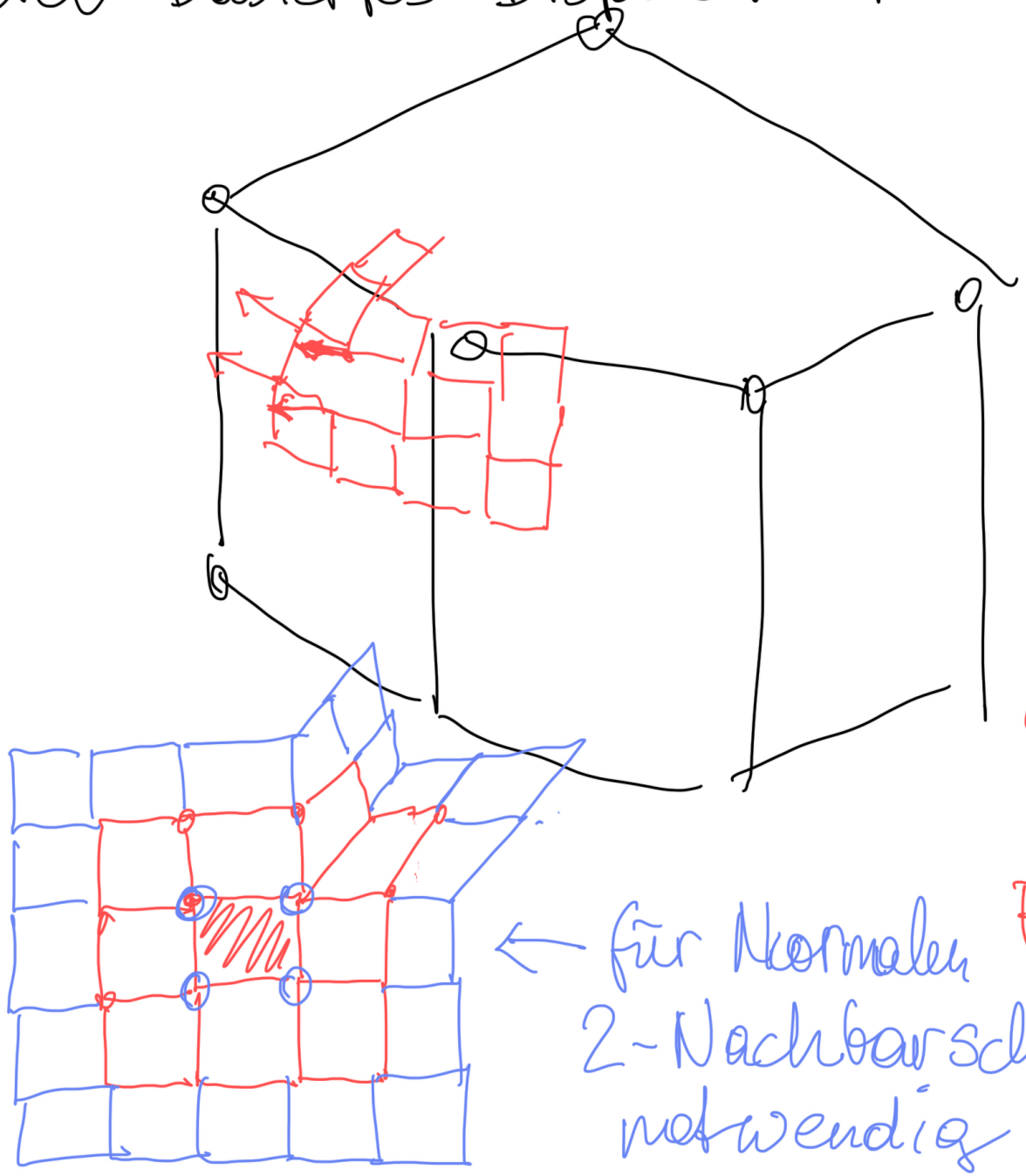
$d = 0 \iff$ unendliche Kantenschärfe

$\vdots$

i

danach Standard Subdivision

Level-Basiertes Displacement



displacement possible (at each level)

aufmodulieren nach Frequenzspektrum

← für Normalen 2-Nachbarschaft notwendig

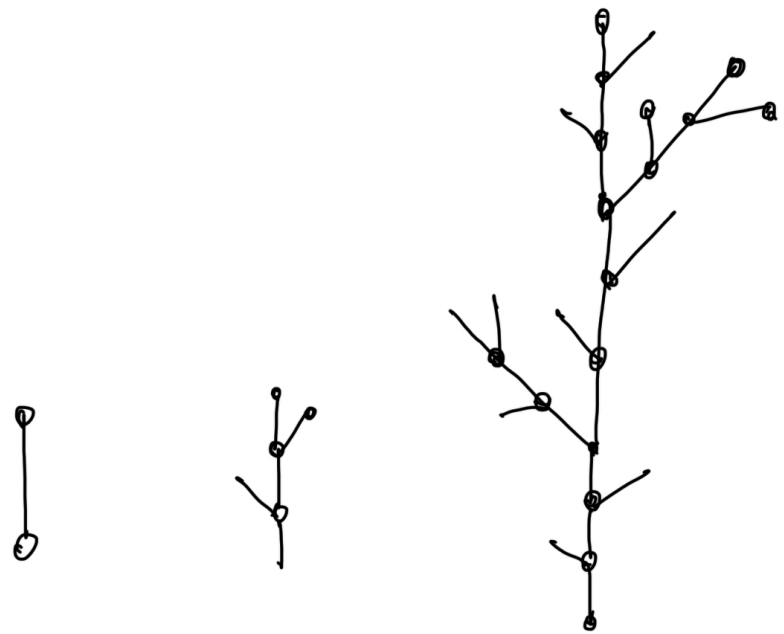
Verzweigung

L-System

Symbol-Rewriting

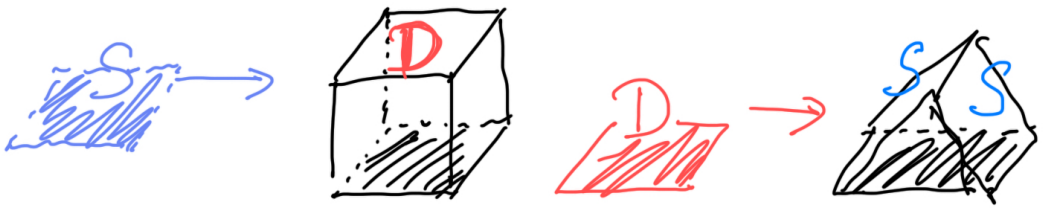
$S \rightarrow S[-S]S[+S]S$

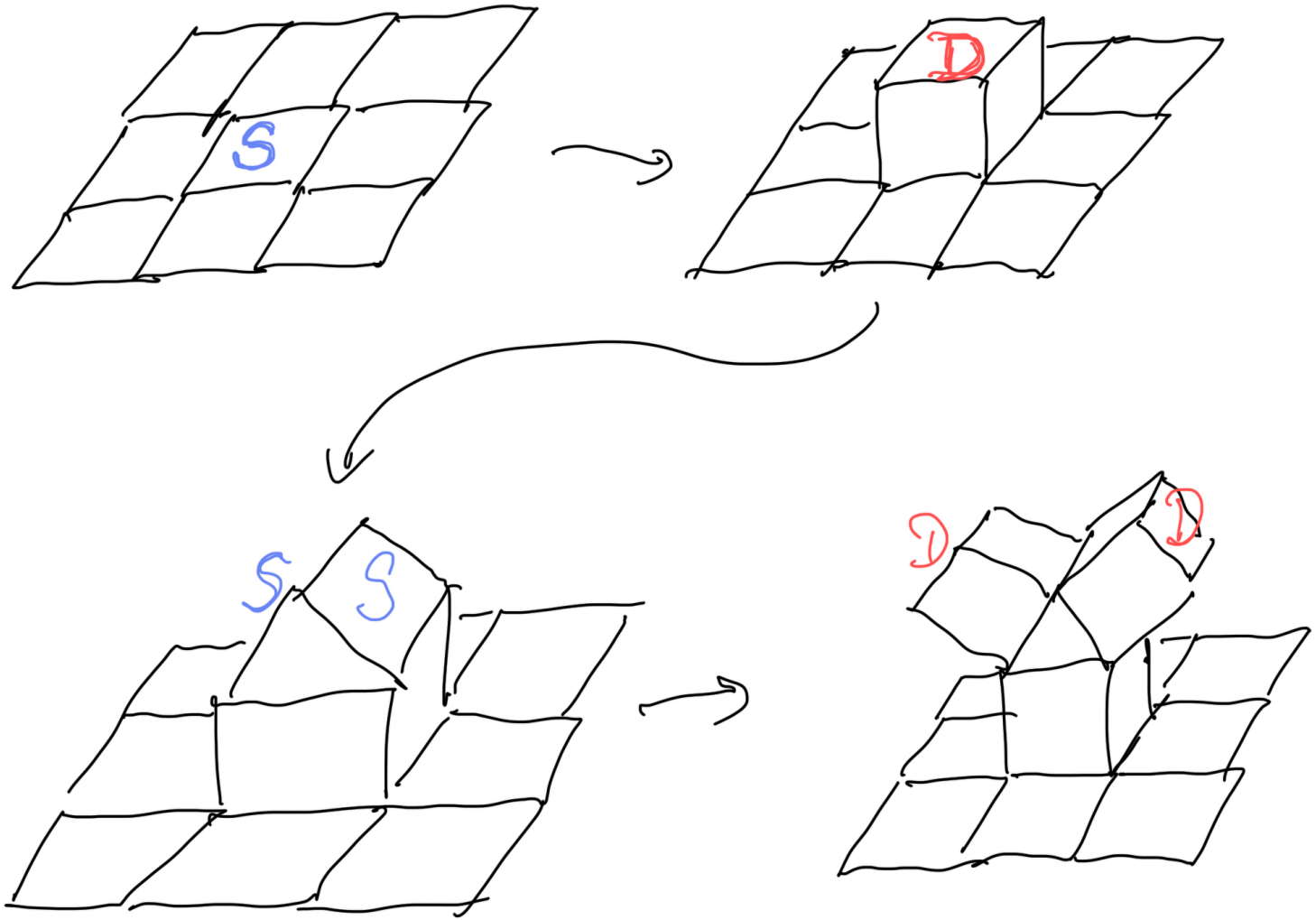
$-60°$ $+60°$

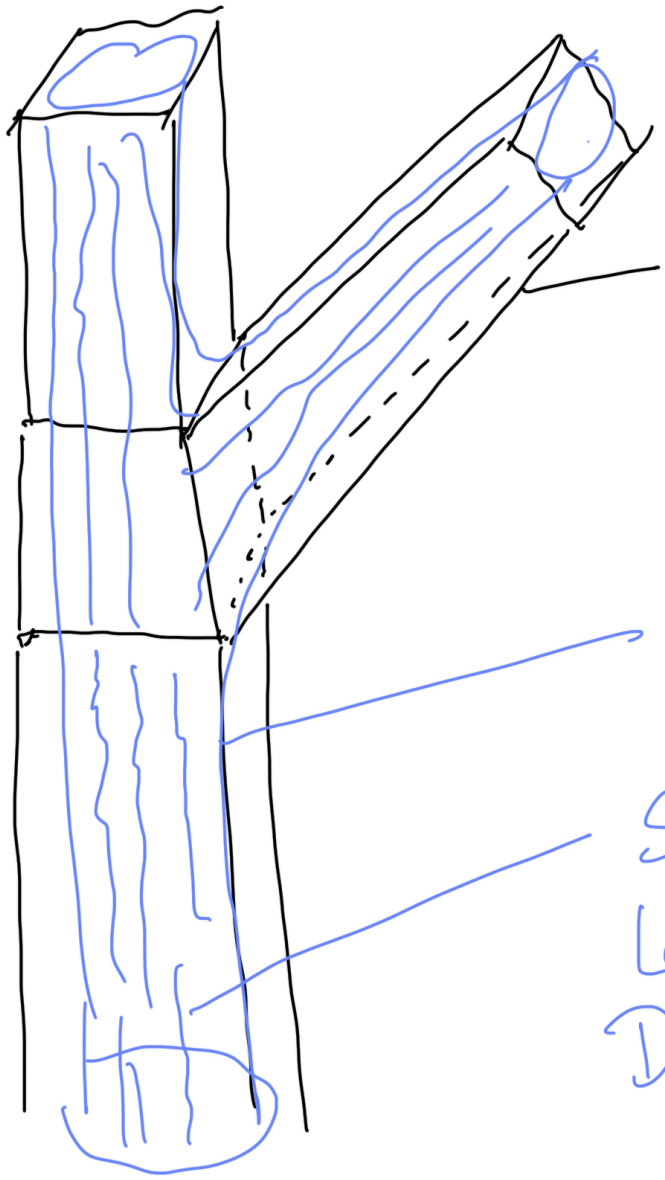


Geometry

Mesh-Based L-System







Mesh-Based
L-Systeme

Subdivision

Struktur mittels
Level-Basiertem
Displacement
(z.B. Rinde)