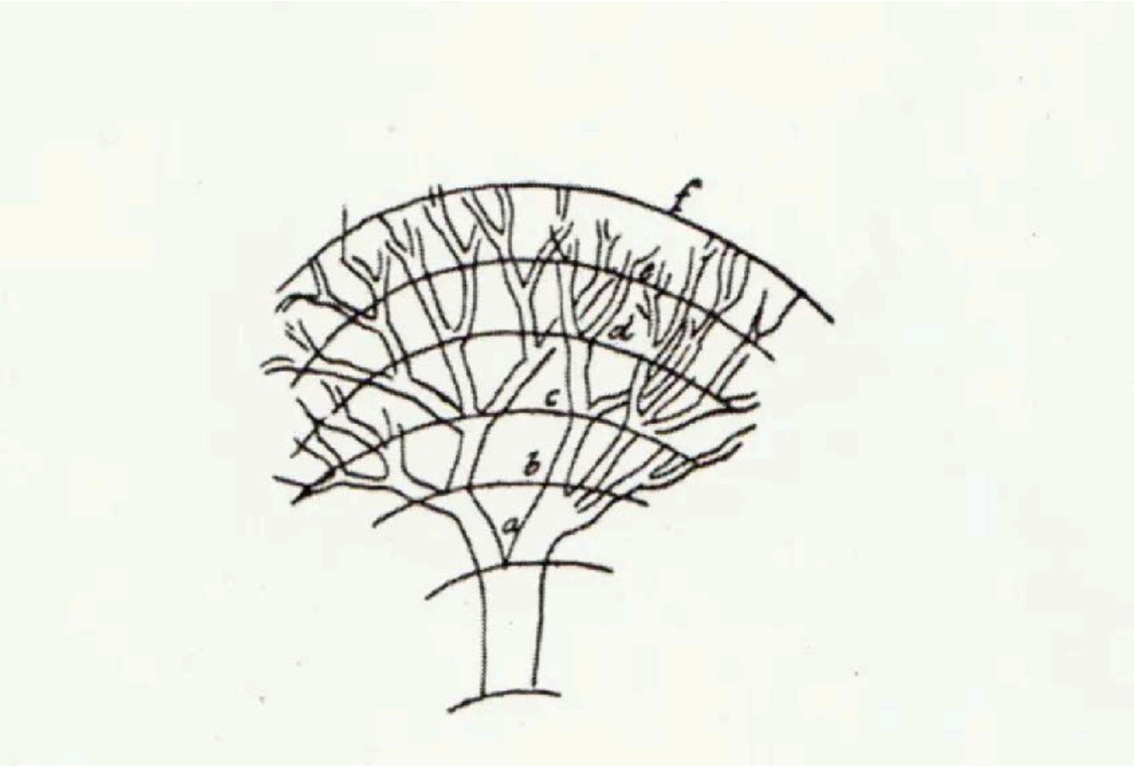
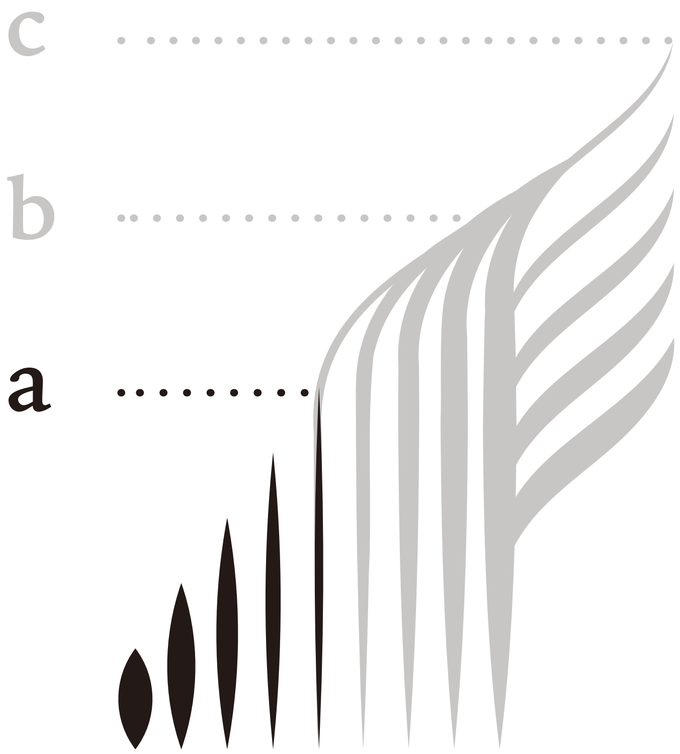
Continuing from last week's study of the visual language of plants, here is my list of the work for week 2:

1. More accurately translate phyB's language, change the basic elements from the original squares to more accurate graphics.
2. Provide the audience with prompts and keys for decoding.
3. Bring the graphics into the background, making them more feel like plants.



“Draw a Tree” explores how a tree can have endless possible shapes in different environments

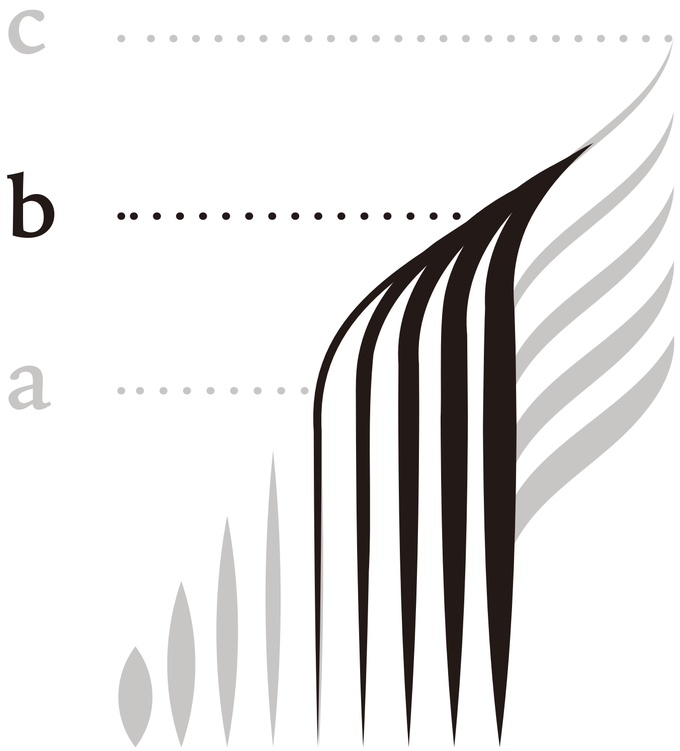
I visualise the visual language of plants carried by PhyB to simulate the process of plant stem cell differentiation by differentiating from a basic type.
I describe the three main stages of the plant life cycle: Hypocotyl & Seedling, Leaf and Flower. Each of these three stages has a different meaning of ‘extension’, ‘development’, ‘syn’chronisation’, echoing the meaning of the original word ‘language’ that I have translated.
I hope to describe the infinite possibilities formed by the information carried by the same plant visual PhyB language under different environments, and to simulate the external light through changing gratings, creating a moiré pattern that is used to visualise the way these messages look to the plant's eye.



X axis: time, Y axis: height
Under the soil, in darkness, plants grow vertically from seeds. The faster and longer they stretch, the more slender their bodies become.

a. Underground Vision —— Hypocotyl

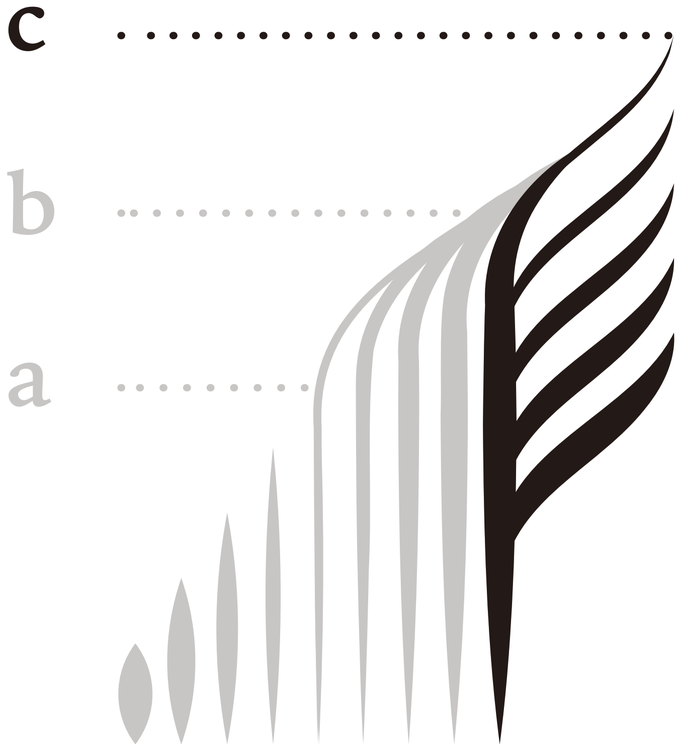
Before seedlings break through the soil, they are already sensing the world through their light-sensing proteins. phyB perceives the darkness and remains silent. In response, the seedlings know it is time to begin their upward growth—a rapid elongation that helps them search for light. Resources are put into this vertical growth, causing the hypocotyl to become long, thin, and fragile.Even in these early underground stages, they are able to "see" their surroundings and respond, long before they fully emerge into the light.



b. Emergence Vision —— Seedling

As the plant's hypocotyl begins to emerge from the soil, the light gradually intensifies, and phyB starts to "sense" the changes in light conditions, gradually activating its own activity. As a result, the plant's growth pattern shift: the upward elongation of the stem begins to slow down, replaced by a more compact form.

X axis: time, Y axis: height
The height elongation gradually stops, and the body begins to stretch itself, becoming thicker and shorter.



c. Expansion Vision —— Leaf

When surrounding are too dense and light is blocked, phyB allows the plants to "see" this change. As a result, they begin to elongate their cells, becoming taller and more slender, with their leaves becoming more upright to capture more light. However, when the light becomes strong, phyB also detects this and causes the plants to become shorter and more robust. Through phyB's "visual" perception, the plants adjust their growth patterns to adapt to the changes in their environment.

X axis: time, Y axis: height
The weaker the light, the taller and slimmer the plant grows; the stronger the light, the shorter and stronger it becomes.



d. Flower

I use the flower as the final step in the extension of the plant, and the overall diagram as the basic element in the formation of the flower.

Slice.a

Variation #2

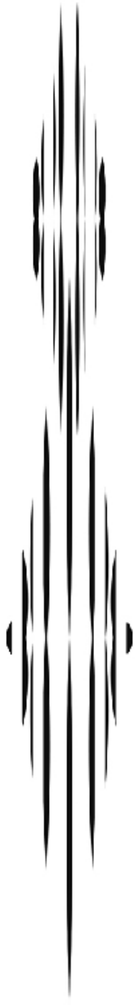
Vertical stretching



Slice.a

Variation #3

Linear repeating and moving



Slice.a



Variation #4

Linear repeating and moving



Slice.a



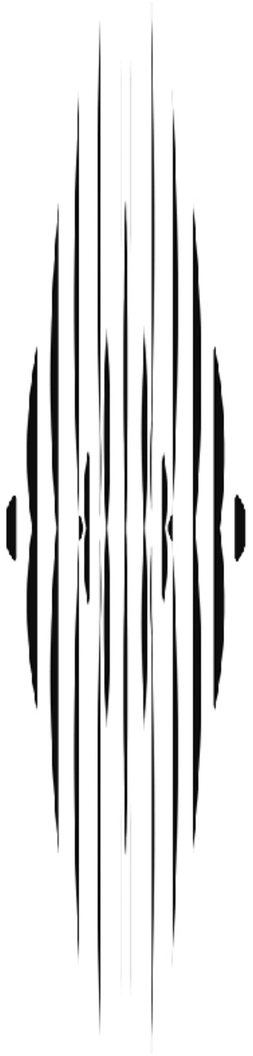
Variation #5

Center vertical stretching



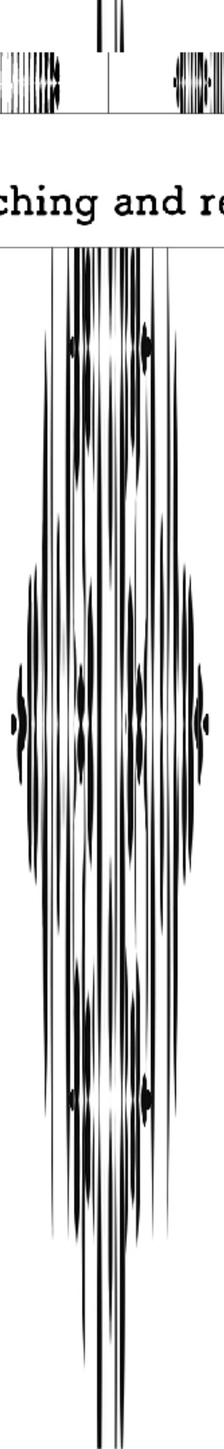
Slice.a

Variation #6
Center expanding



Slice.a

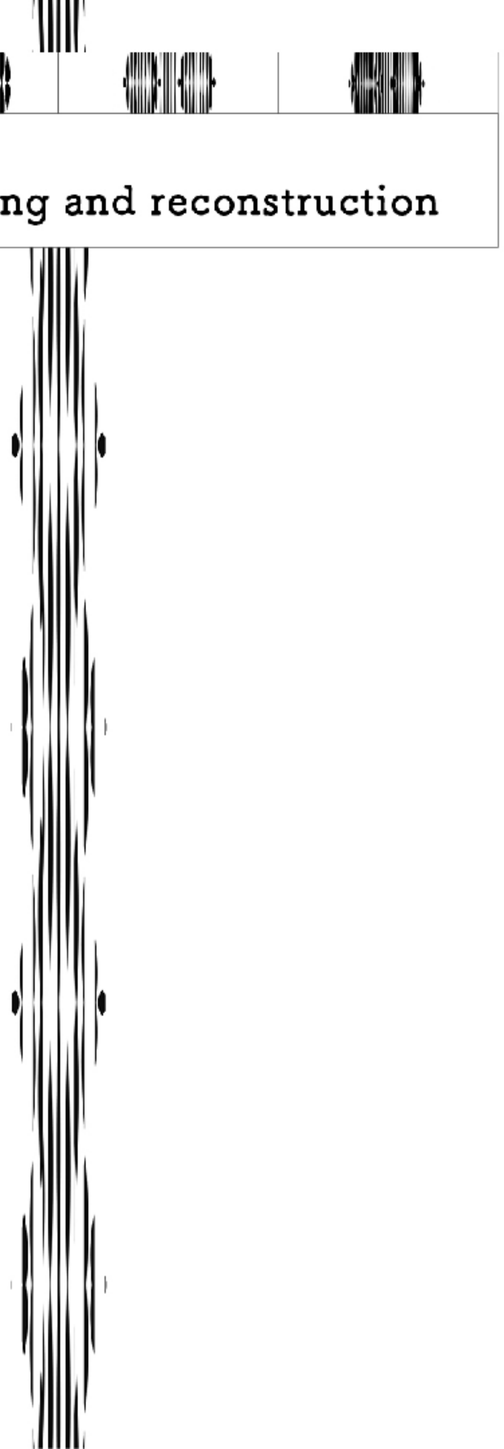
Variation #7
Stretching and reconstruction



Slice.a

Variation #10

Stretching and reconstruction



Slice.a

Variation #11

Stretching and reconstruction



Slice.a

Variation #12

Center expanding



Slice.a

Variation #13

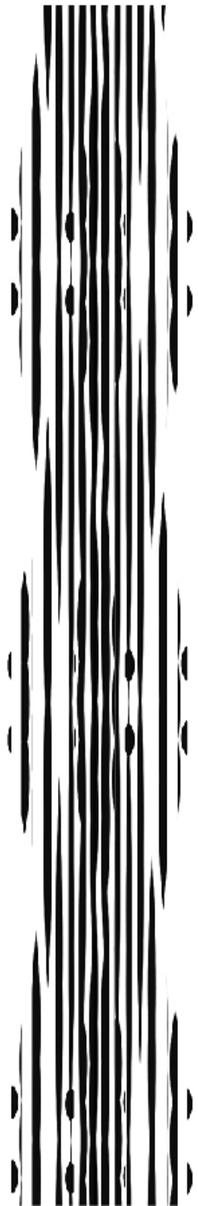
Stretching and reconstruction



Slice.a

Variation #14

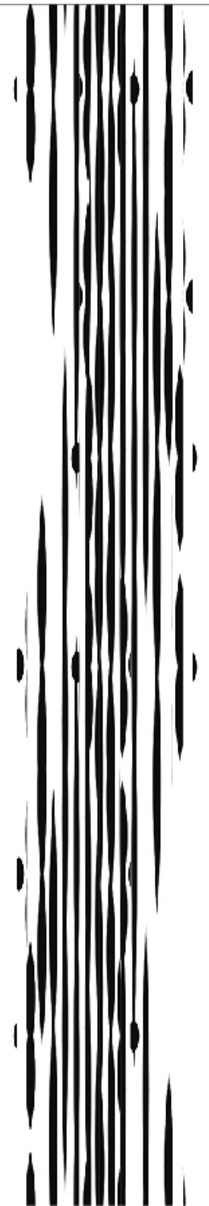
Center expanding



Slice.a

Variation #15

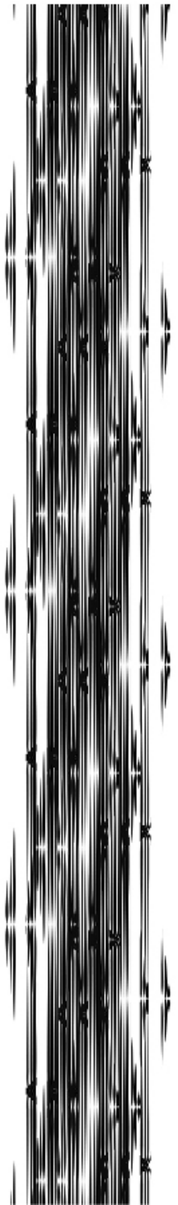
Stretching and reconstruction



Slice.a

Variation #18

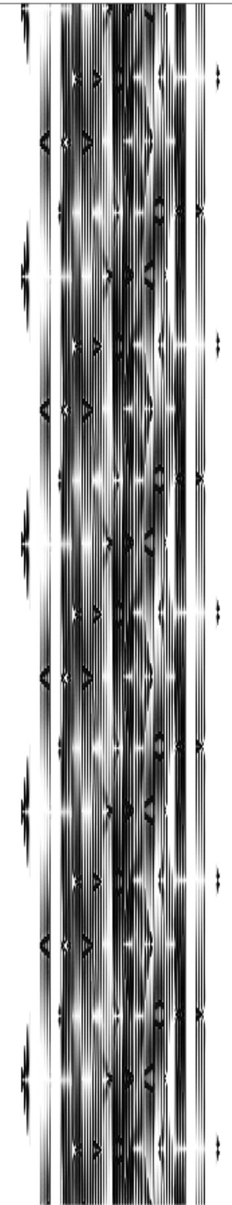
Center expanding



Slice.a

Variation #19

Stretching and reconstruction



Slice.a

Variation #20

Center expanding



Slice.a

Variation #21

Stretching and reconstruction



Slice.a

Variation #22

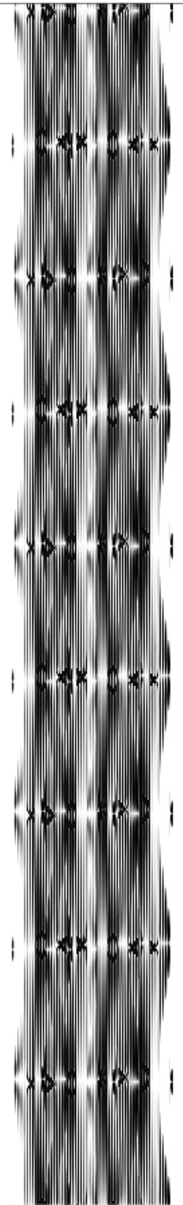
Center expanding



Slice.a

Variation #23

Stretching and reconstruction



Slice.a

Variation #24

Center expanding

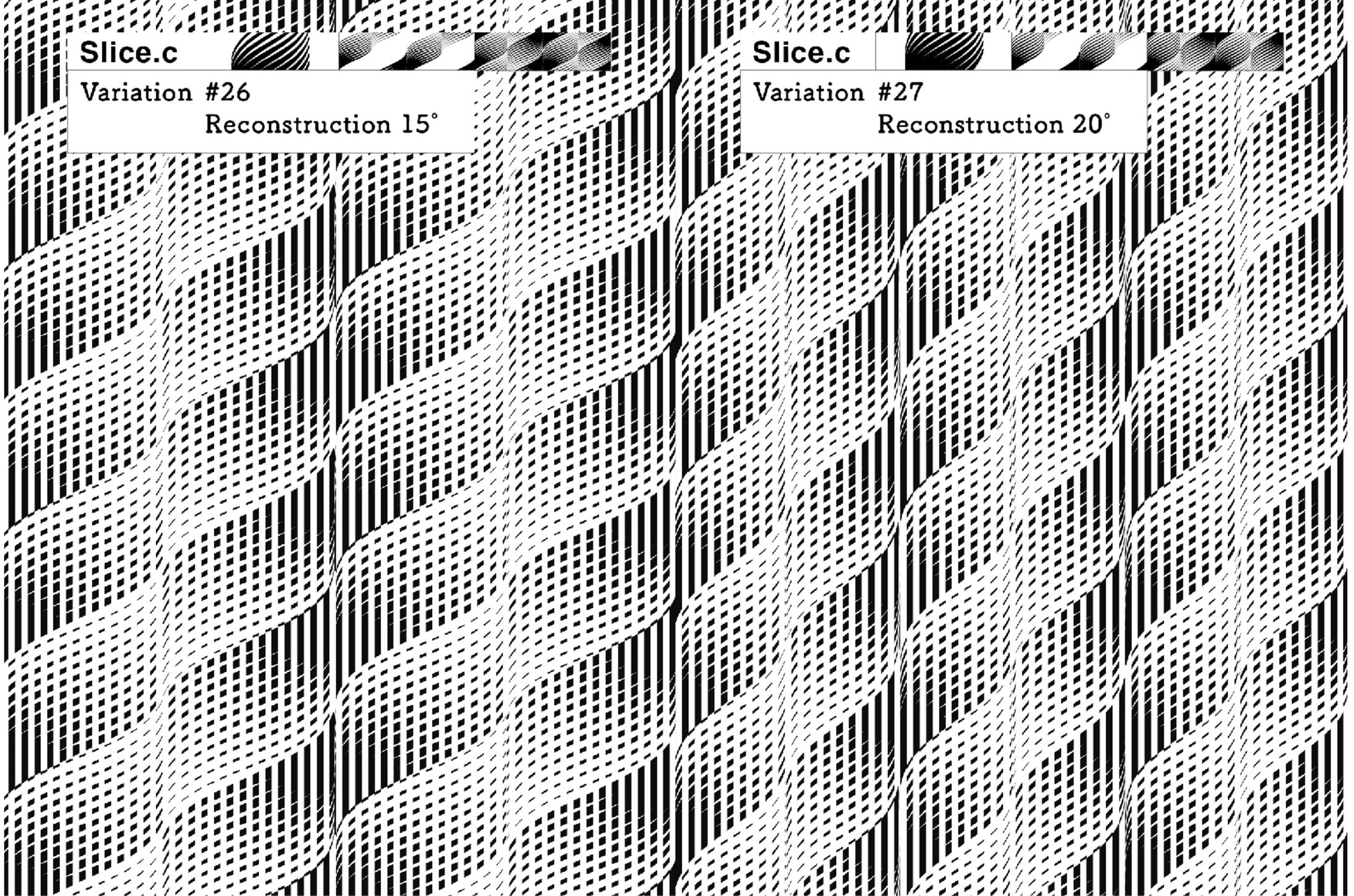


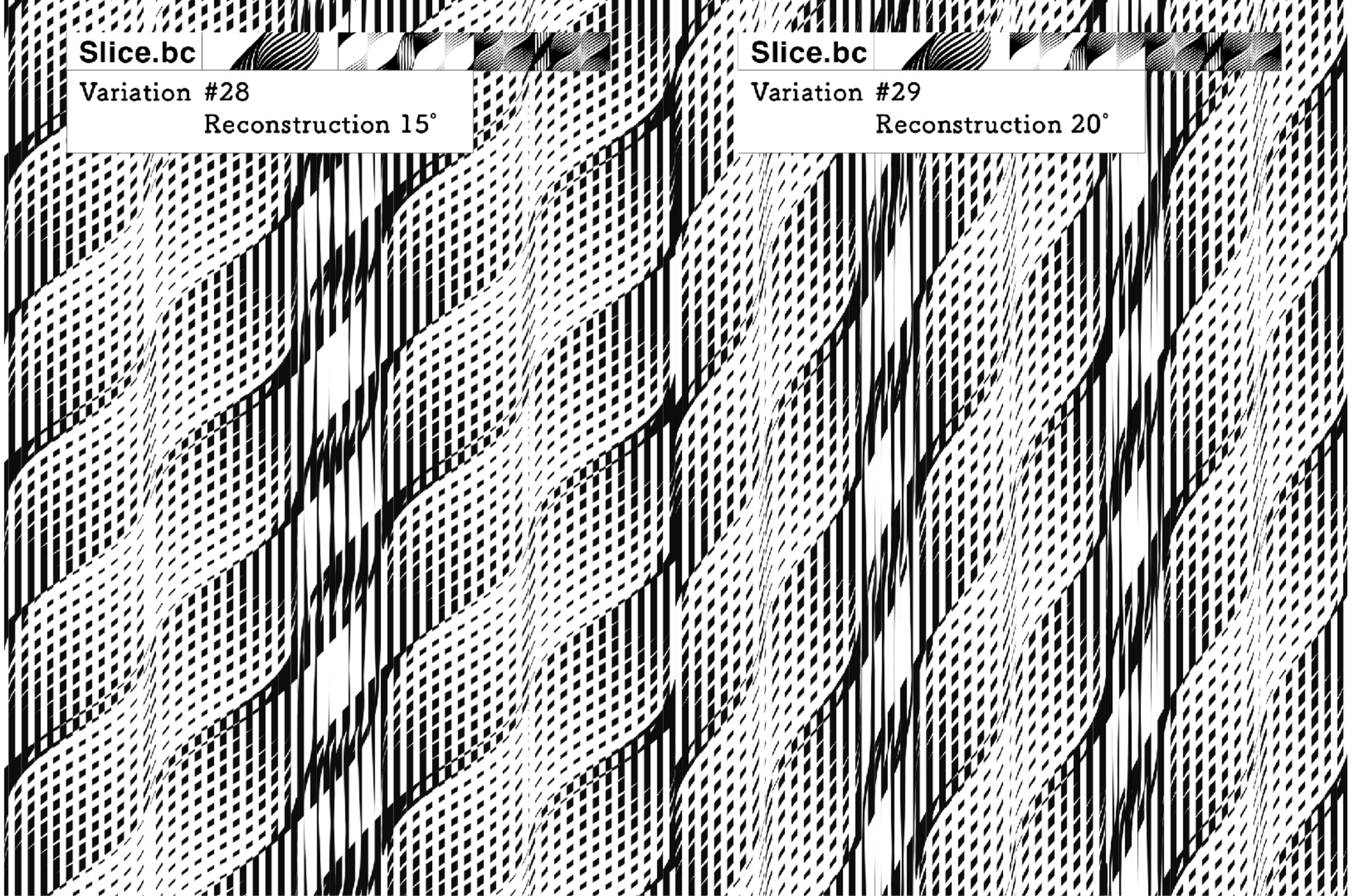
Slice.a

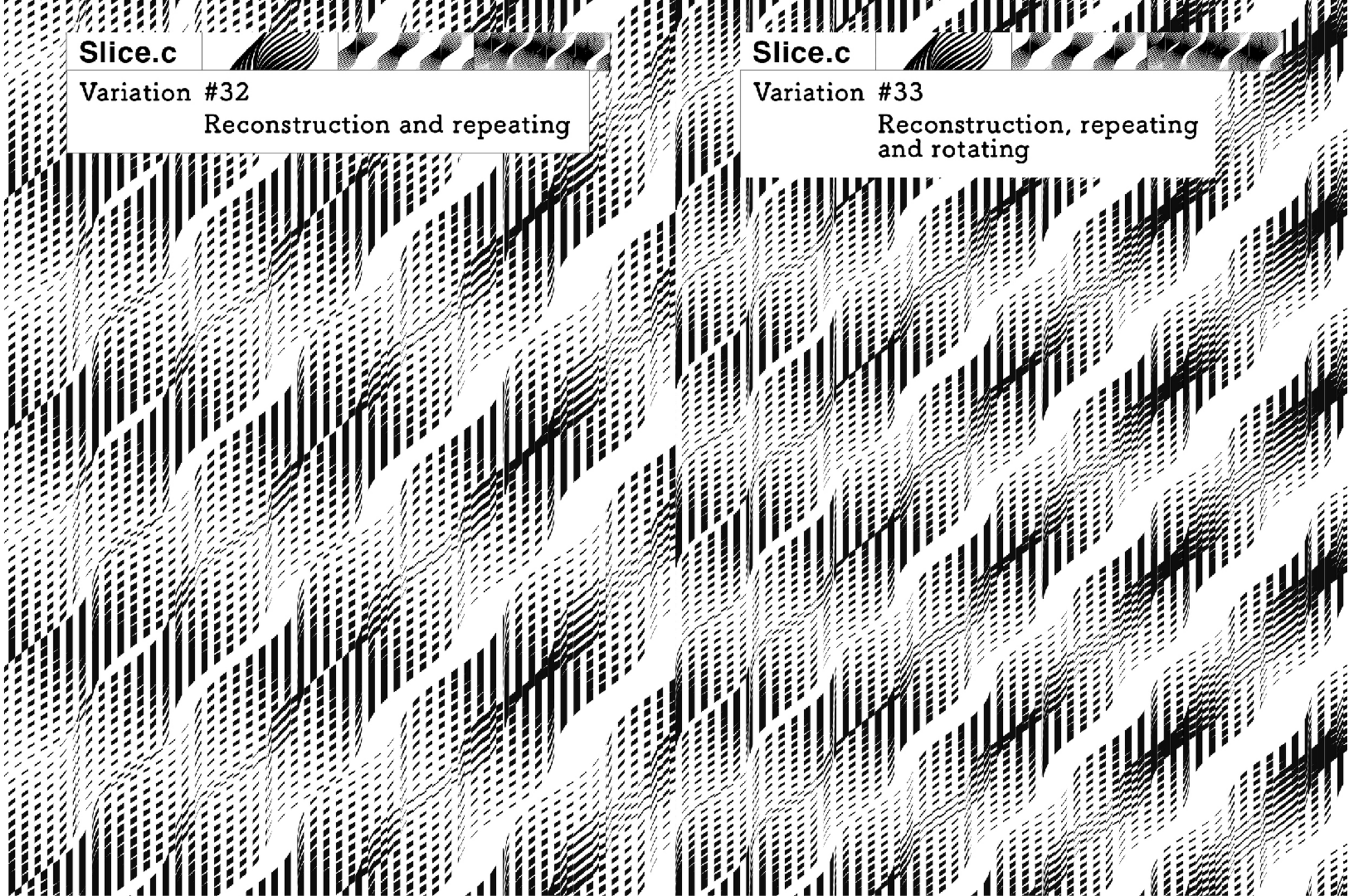
Variation #25

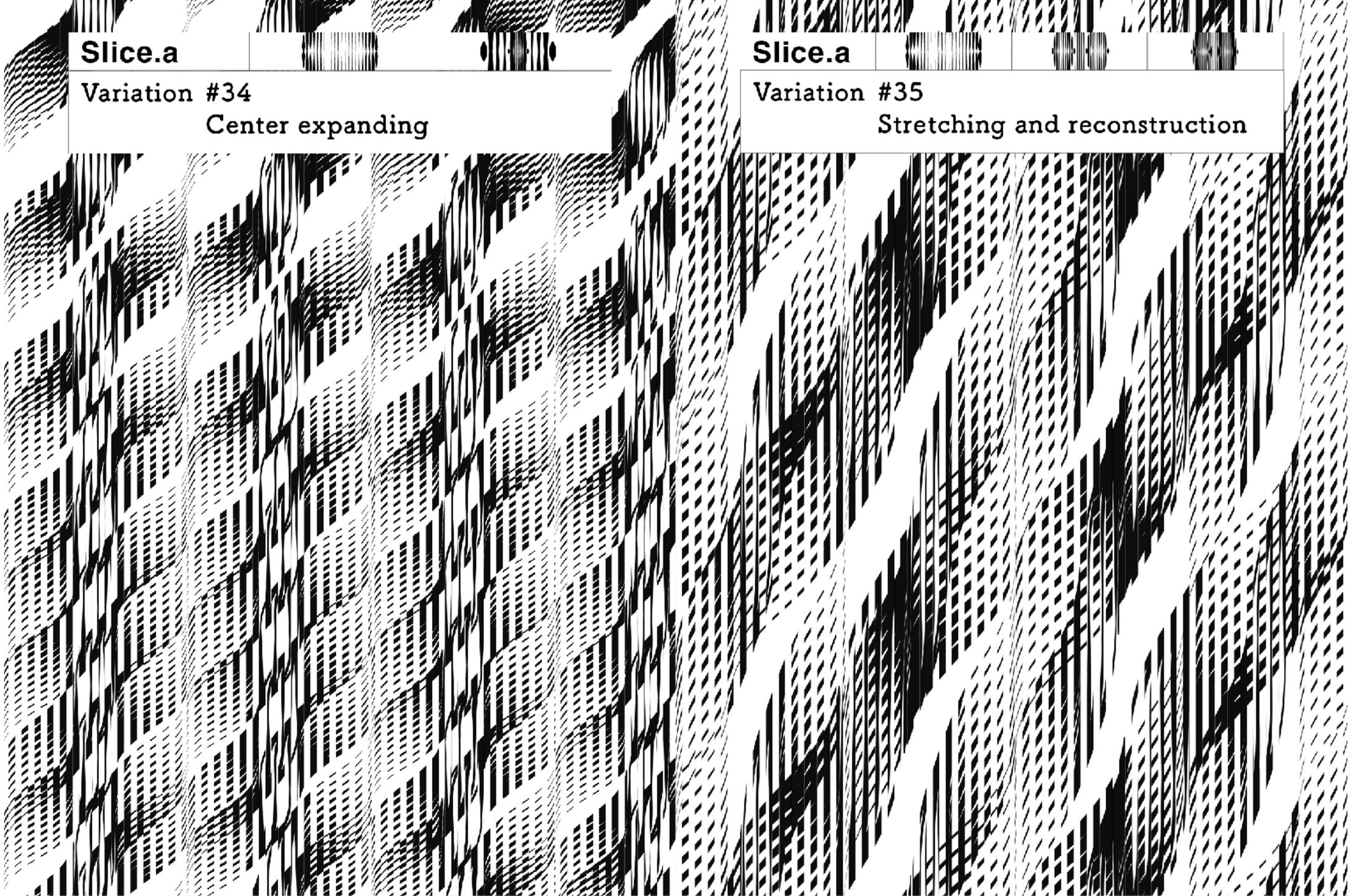
Stretching and reconstruction

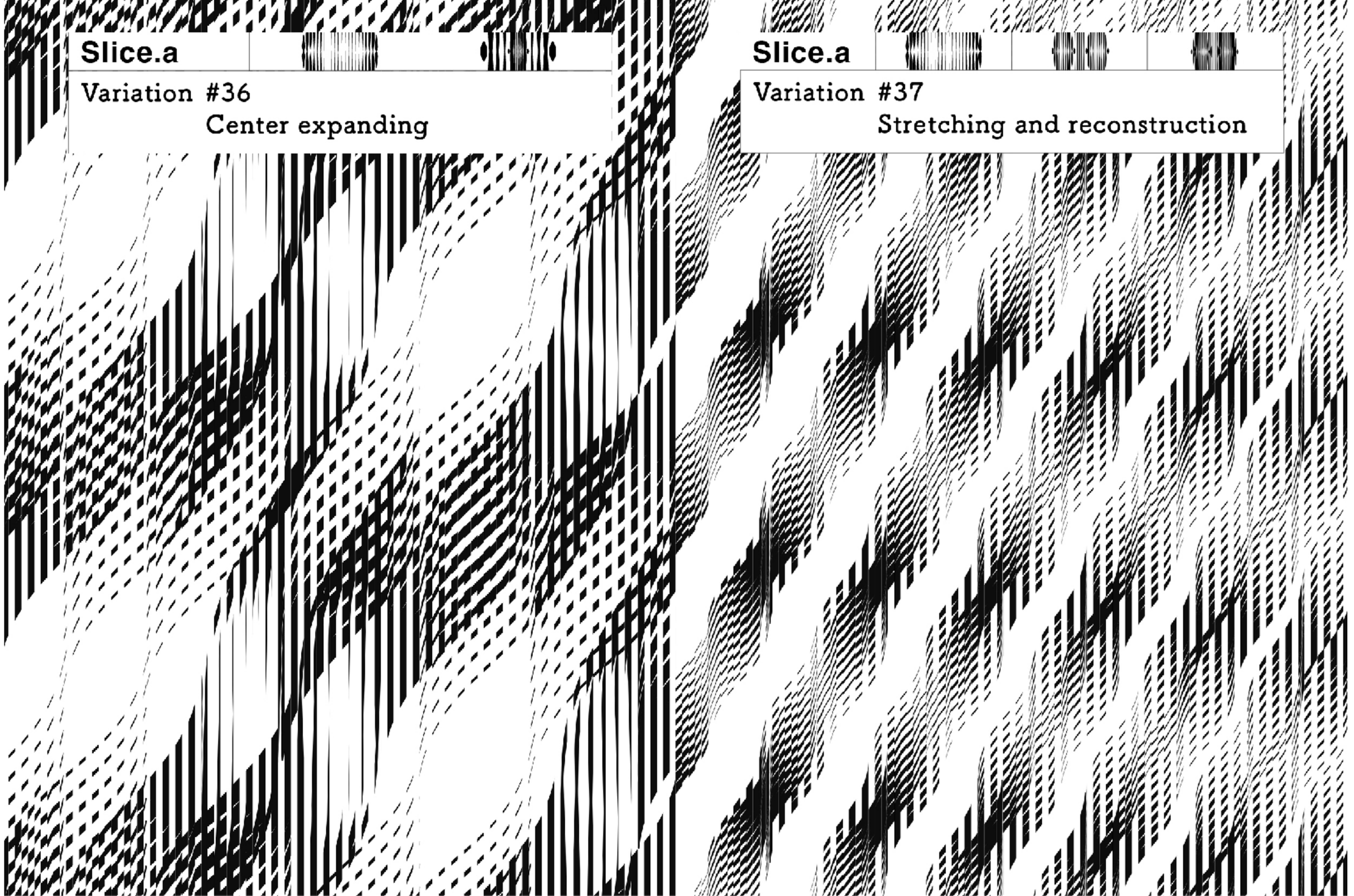


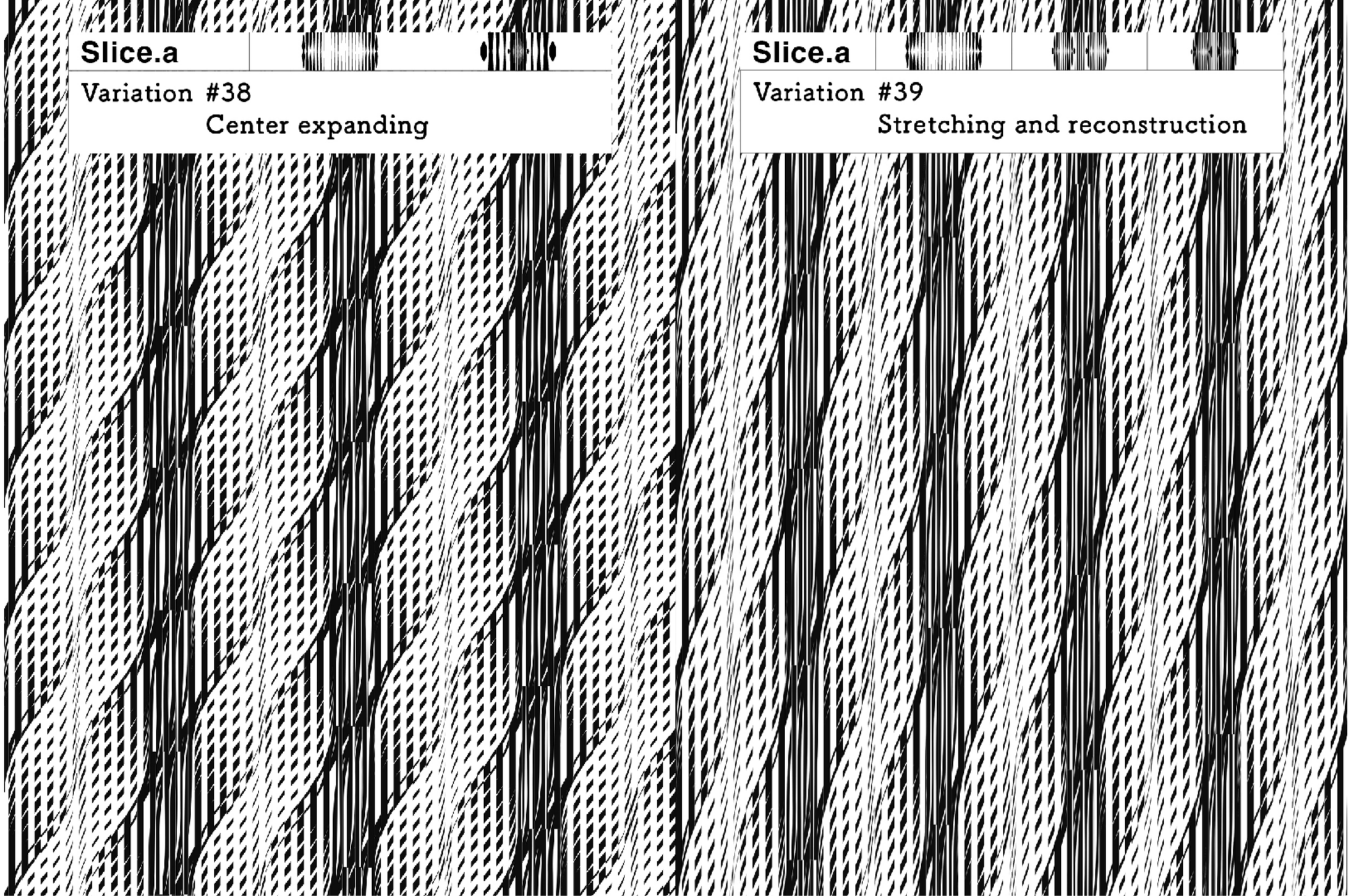

Slice.c
Variation #26
Reconstruction 15°
Slice.c
Variation #27
Reconstruction 20°


Slice.bc
Variation #28
Reconstruction 15°
Slice.bc
Variation #29
Reconstruction 20°


Slice.c
Variation #32
Reconstruction and repeating
Slice.c
Variation #33
Reconstruction, repeating
and rotating


Slice.a
Variation #34
Center expanding
Slice.a
Variation #35
Stretching and reconstruction


Slice.a
Variation #36
Center expanding
Slice.a
Variation #37
Stretching and reconstruction


Slice.a
Variation #38
Center expanding
Slice.a
Variation #39
Stretching and reconstruction

Slice.a

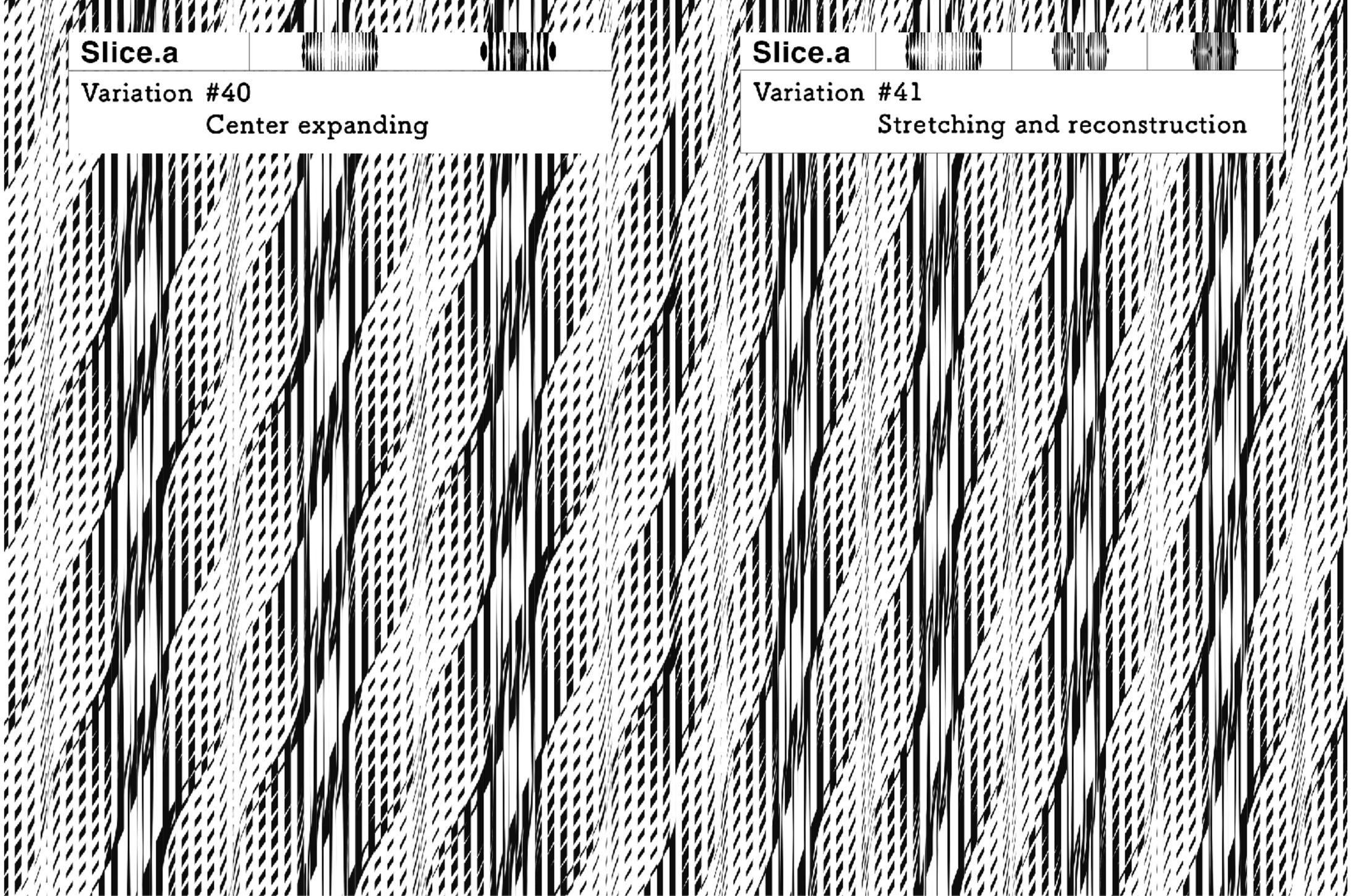
Variation #40

Center expanding

Slice.a

Variation #41

Stretching and reconstruction

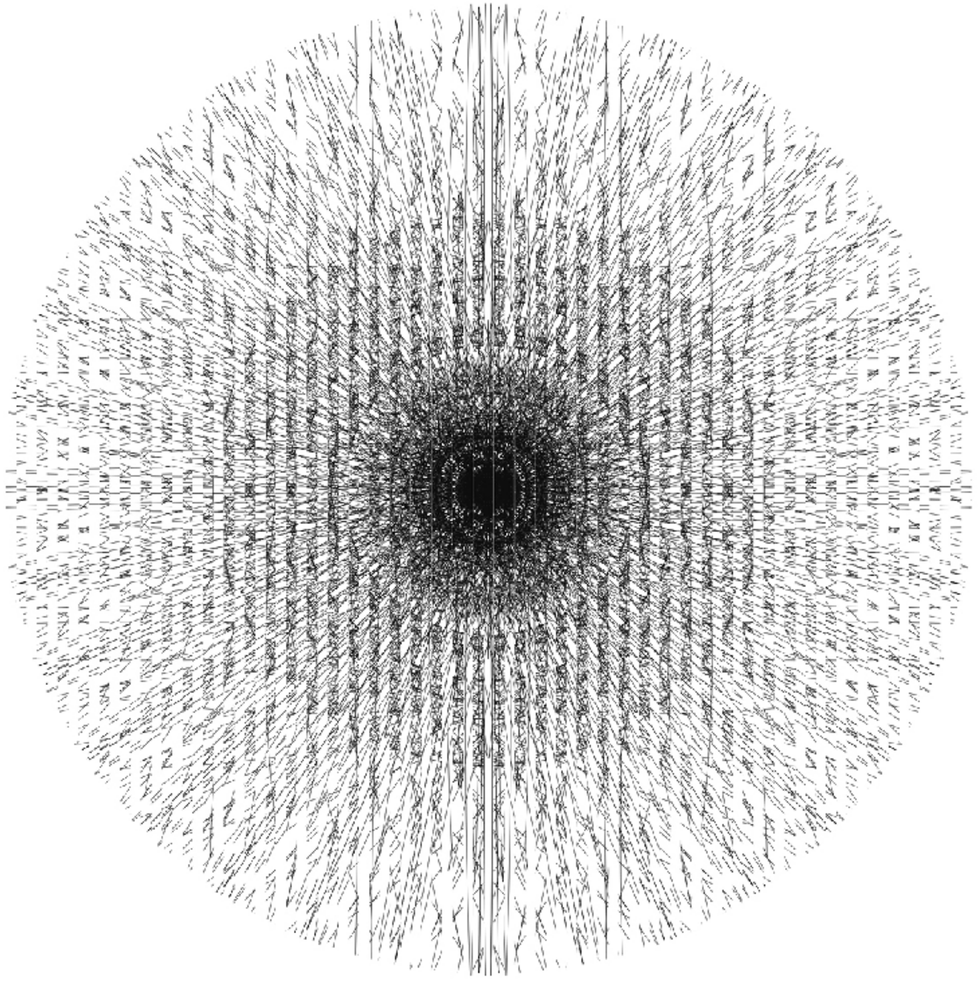



Slice.a
Variation #42
Center expanding
Slice.a
Variation #43
Stretching and reconstruction

Slice.a

Variation #44

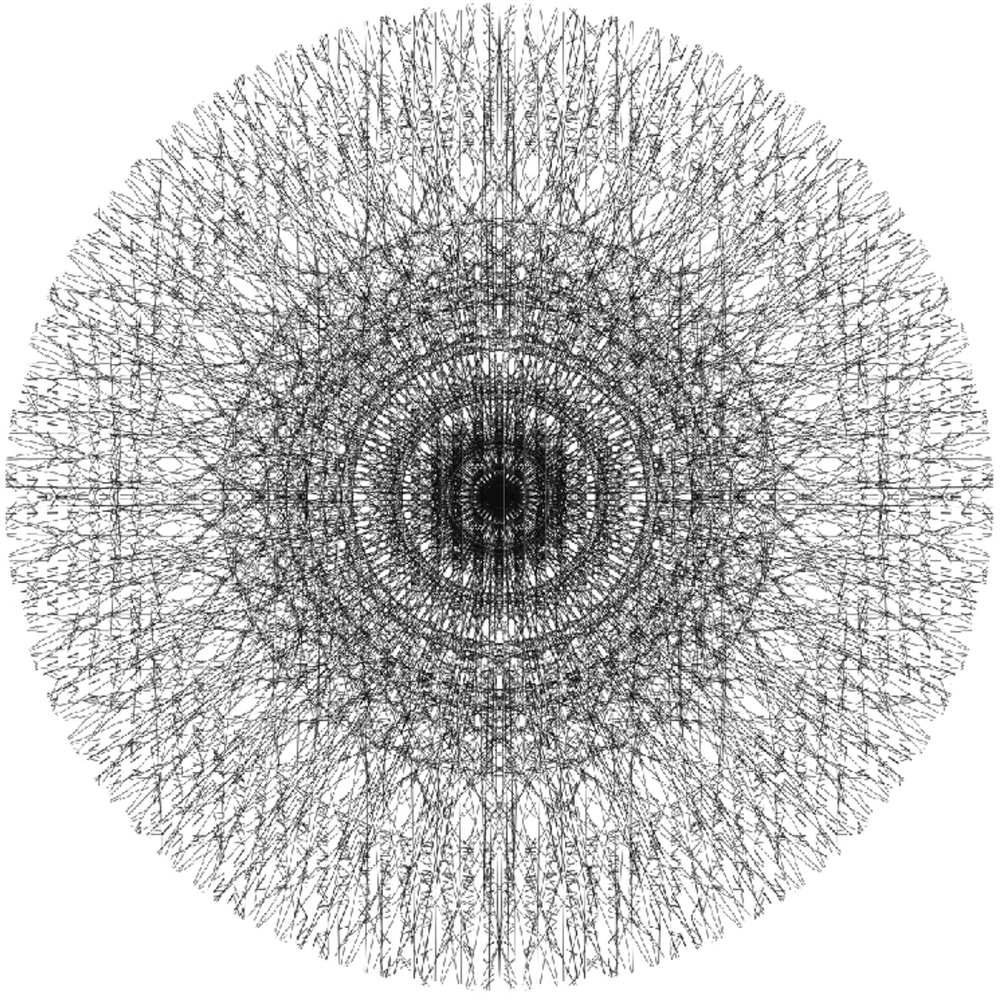
Center expanding



Slice.a

Variation #45

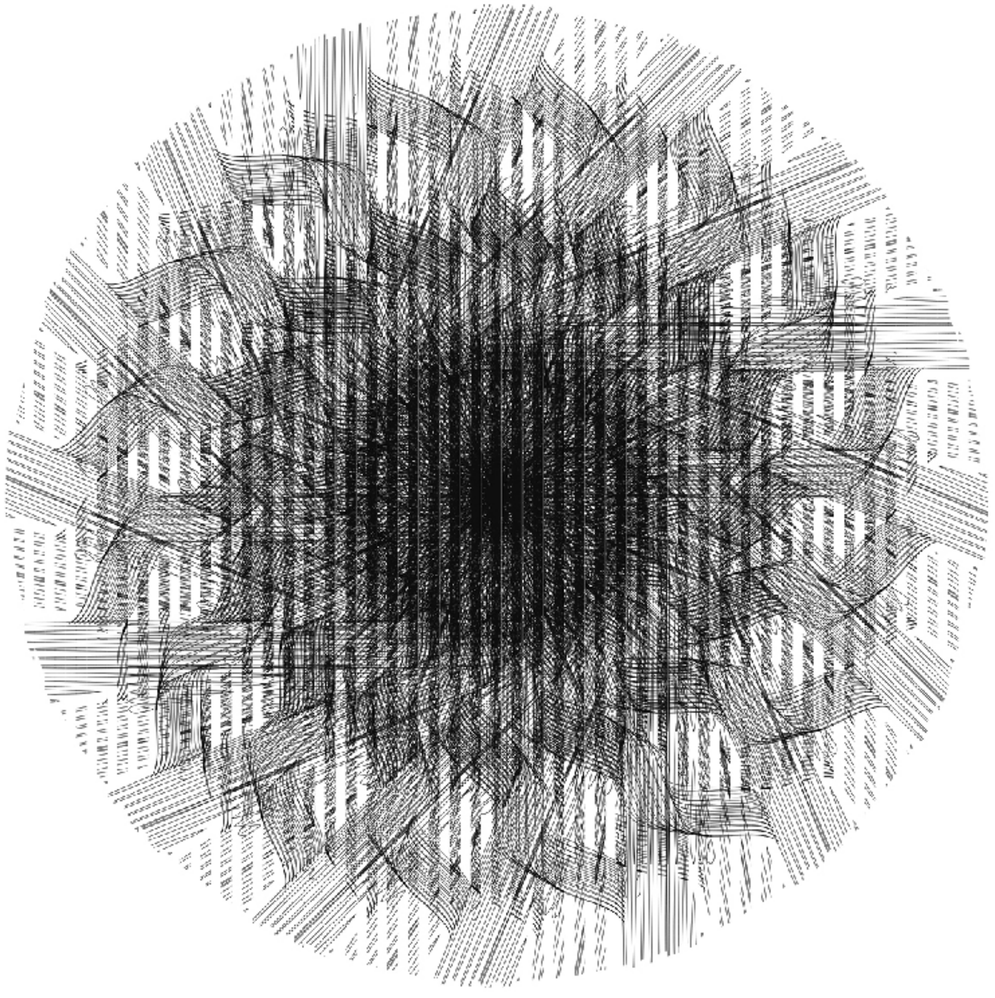
Stretching and reconstruction



Slice.a

Variation #46

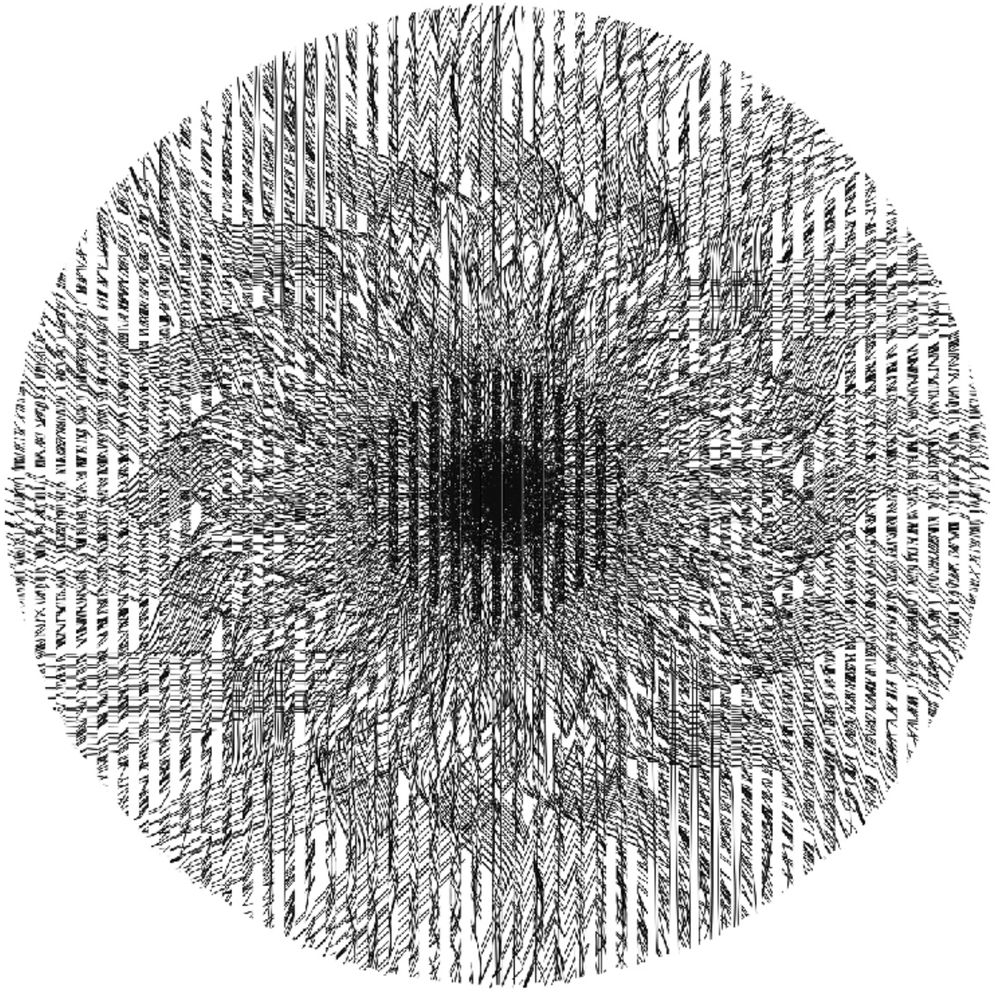
Center expanding



Slice.a

Variation #47

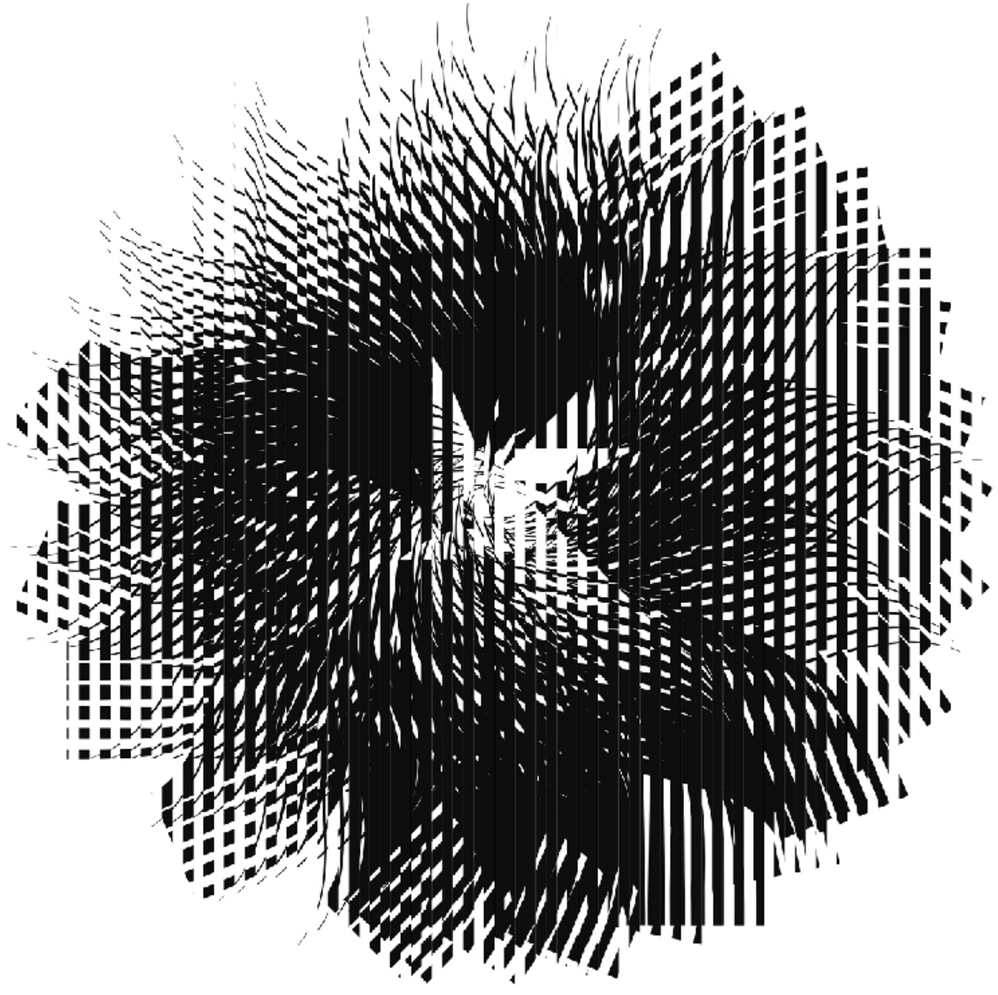
Stretching and reconstruction



Slice.c

Variation #48

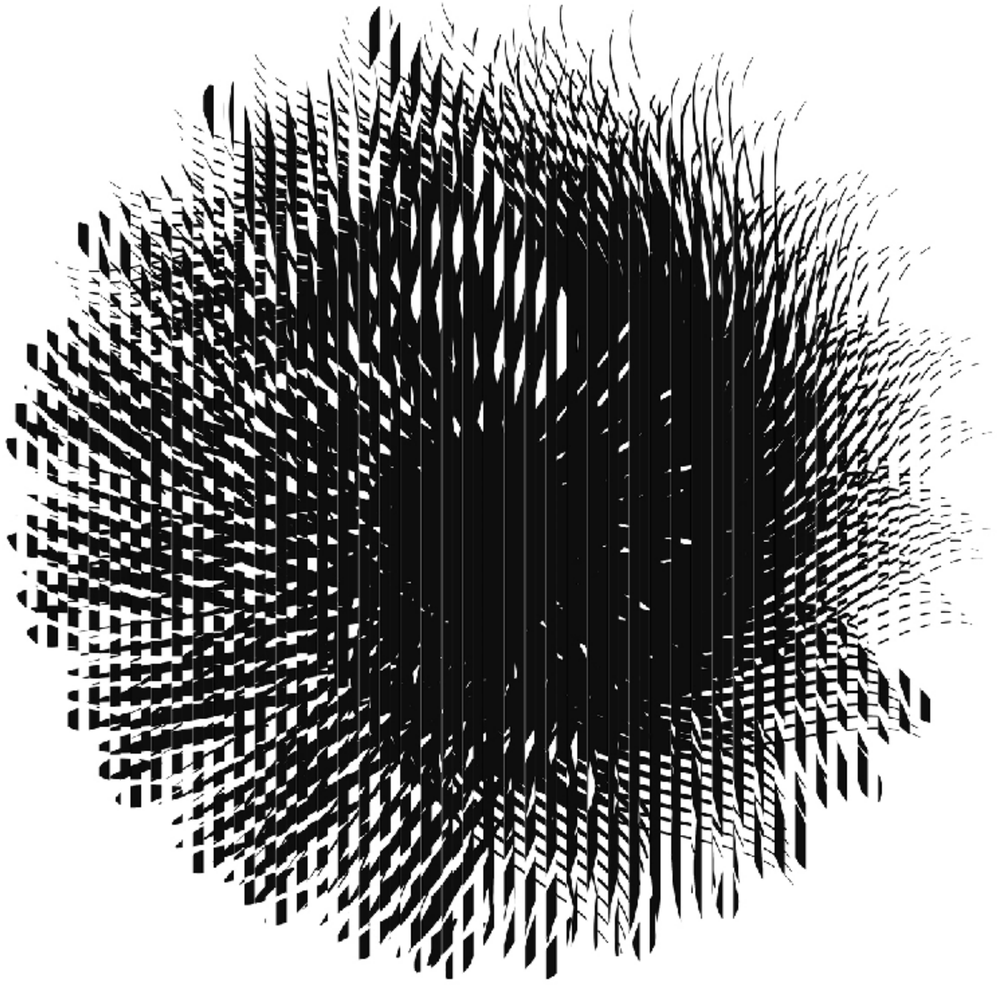
Stretching and reconstruction



Slice.c

Variation #49

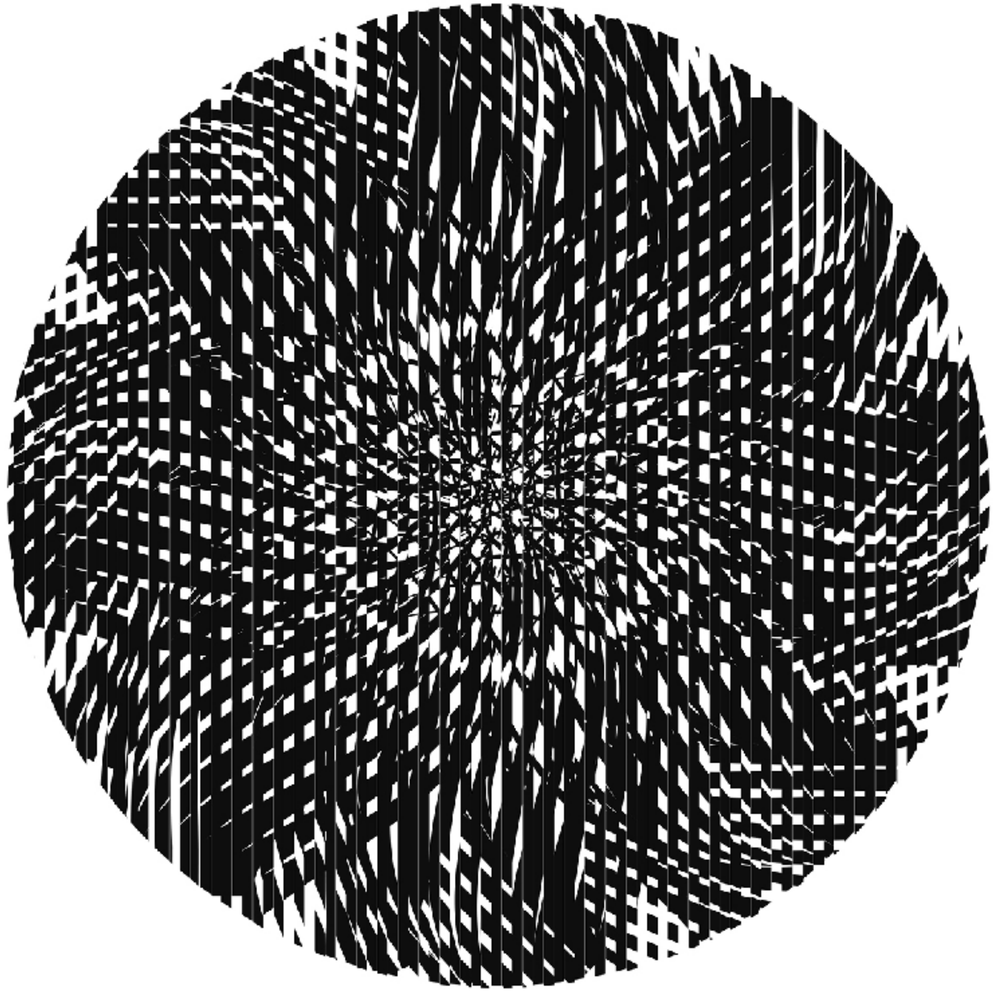
Stretching and reconstruction



Slice.a

Variation #50

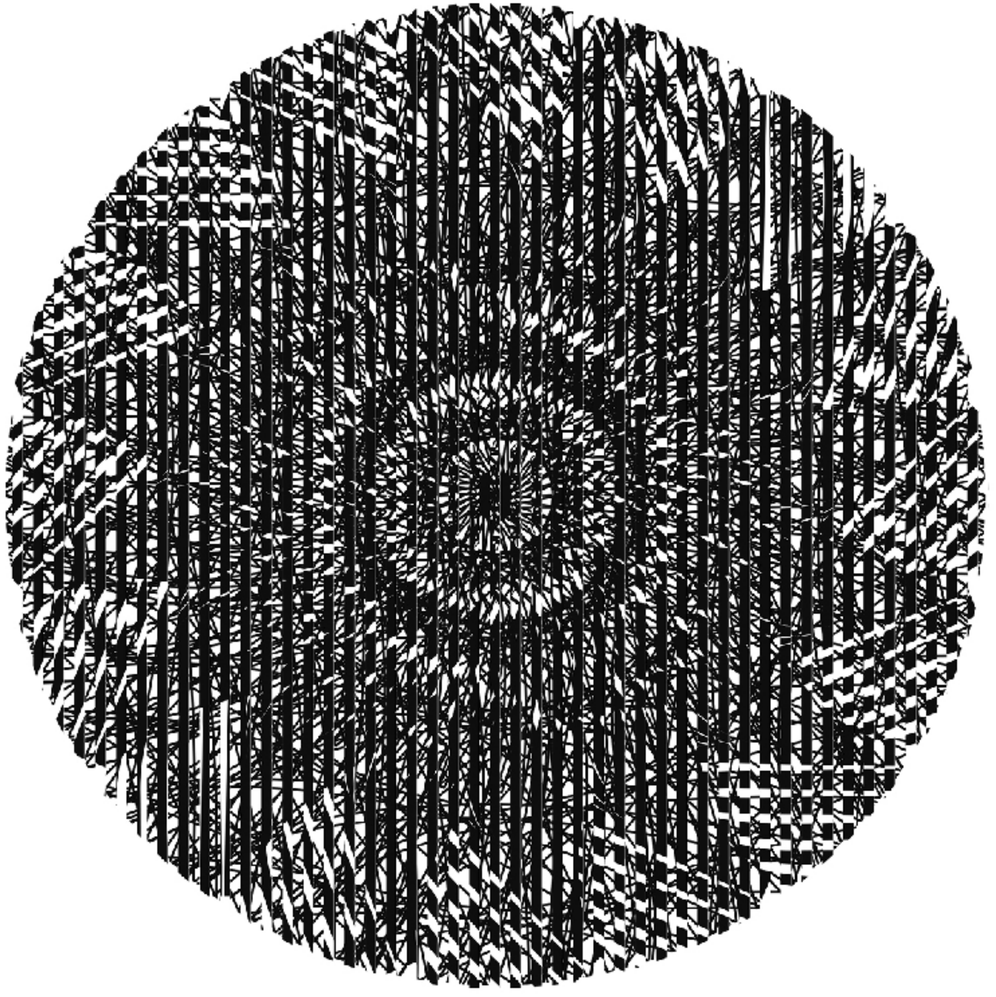
Center expanding



Slice.a

Variation #51

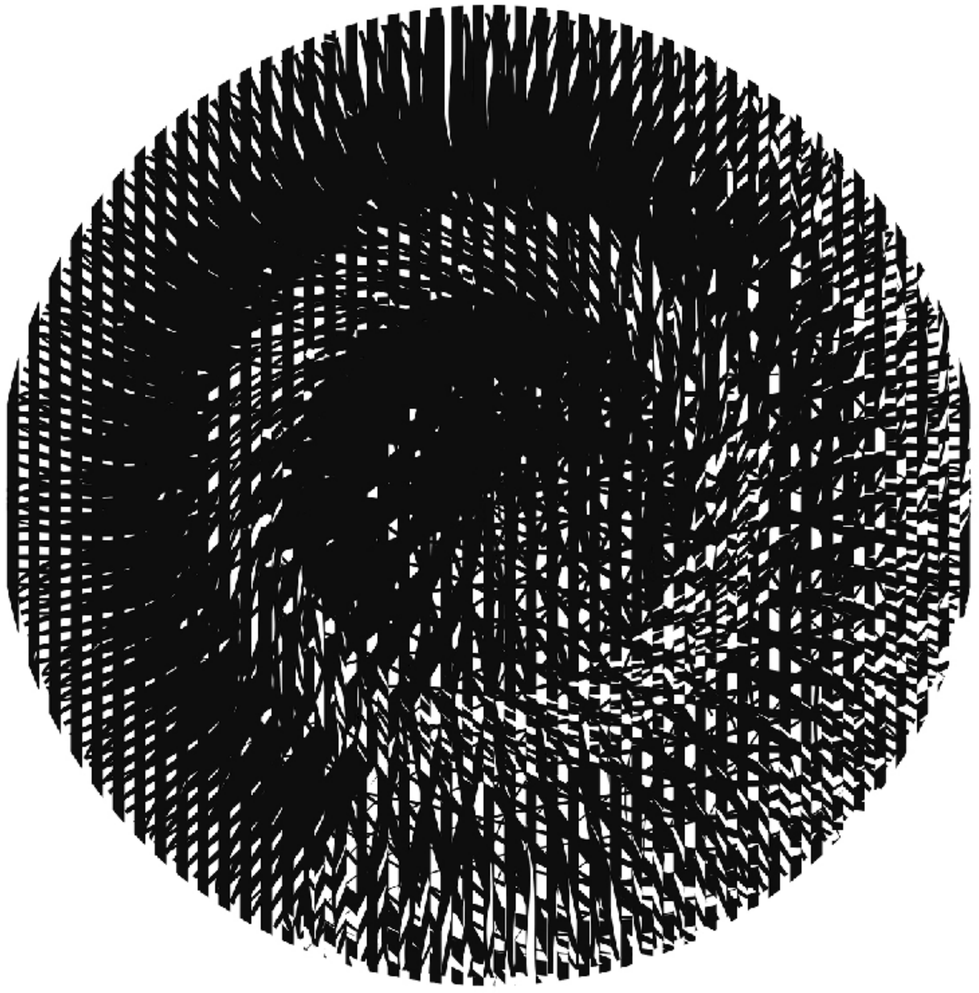
Stretching and reconstruction



Slice.a

Variation #53

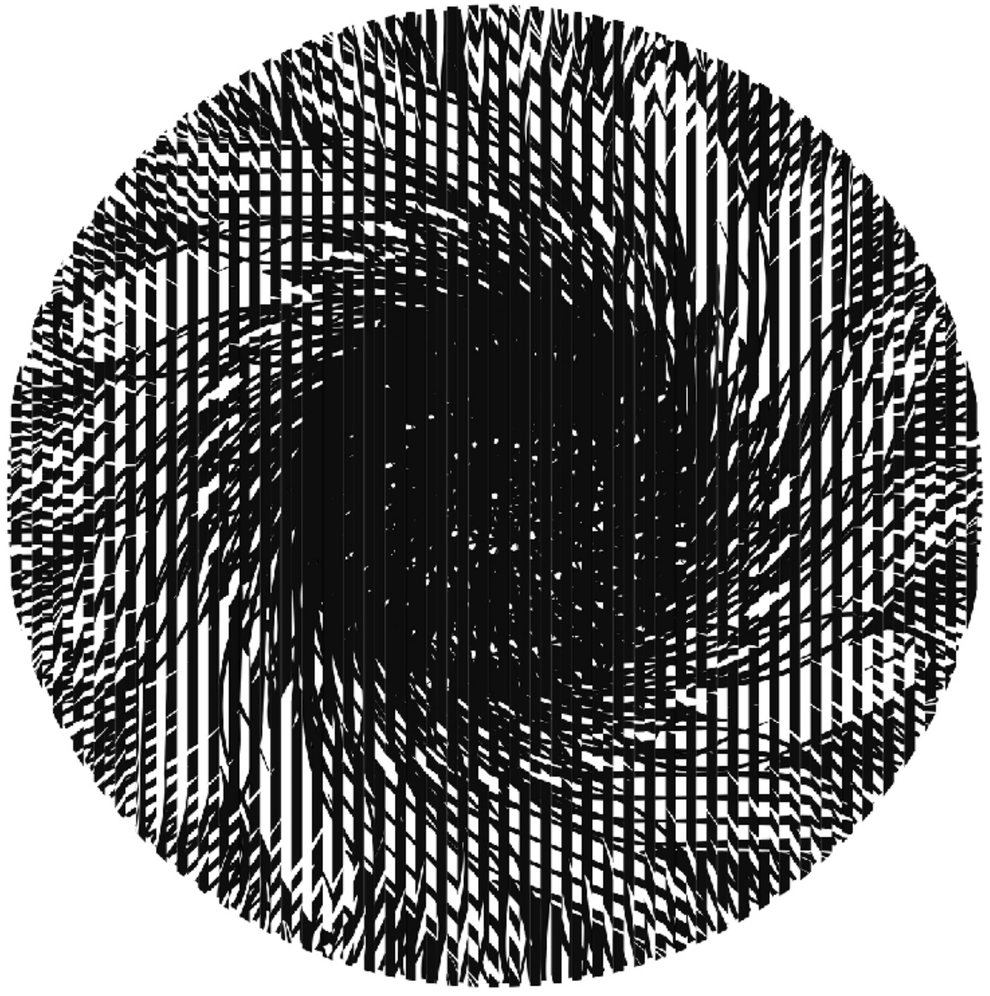
Center expanding



Slice.a

Variation #52

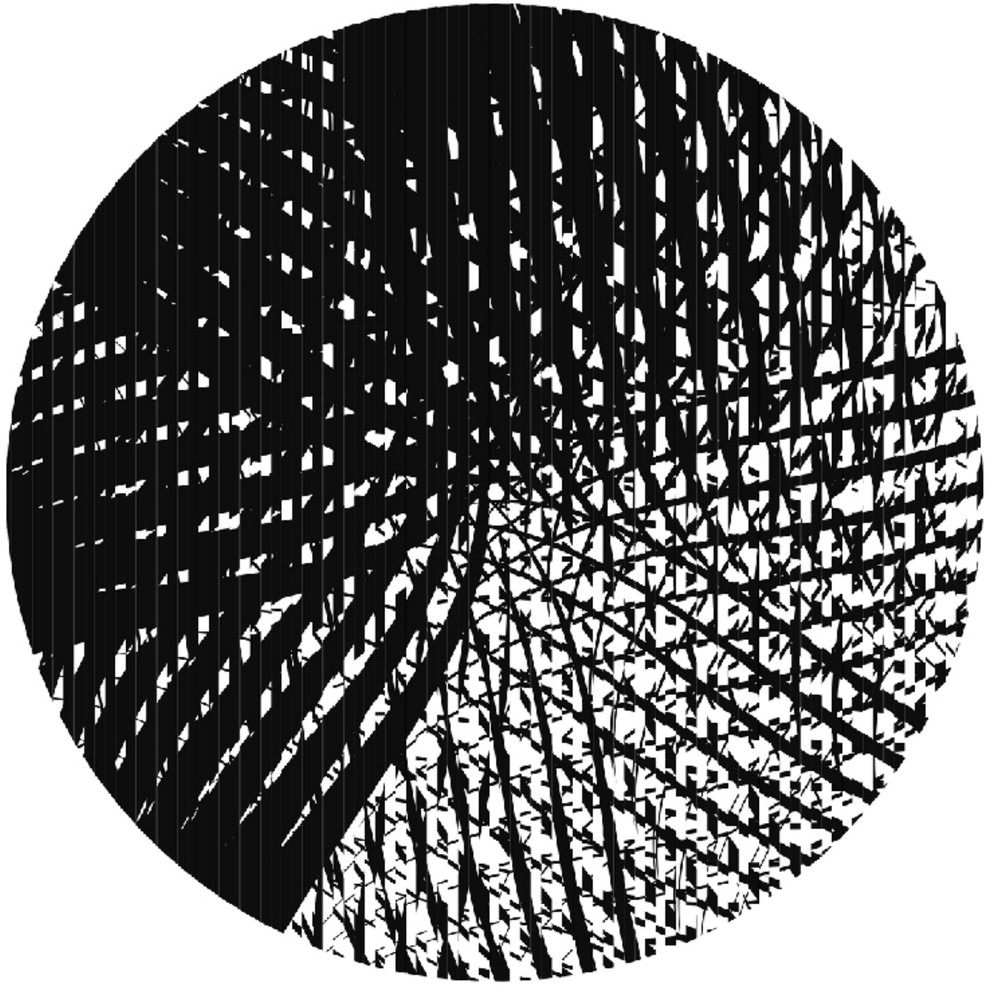
Stretching and reconstruction



Slice.a

Variation #54

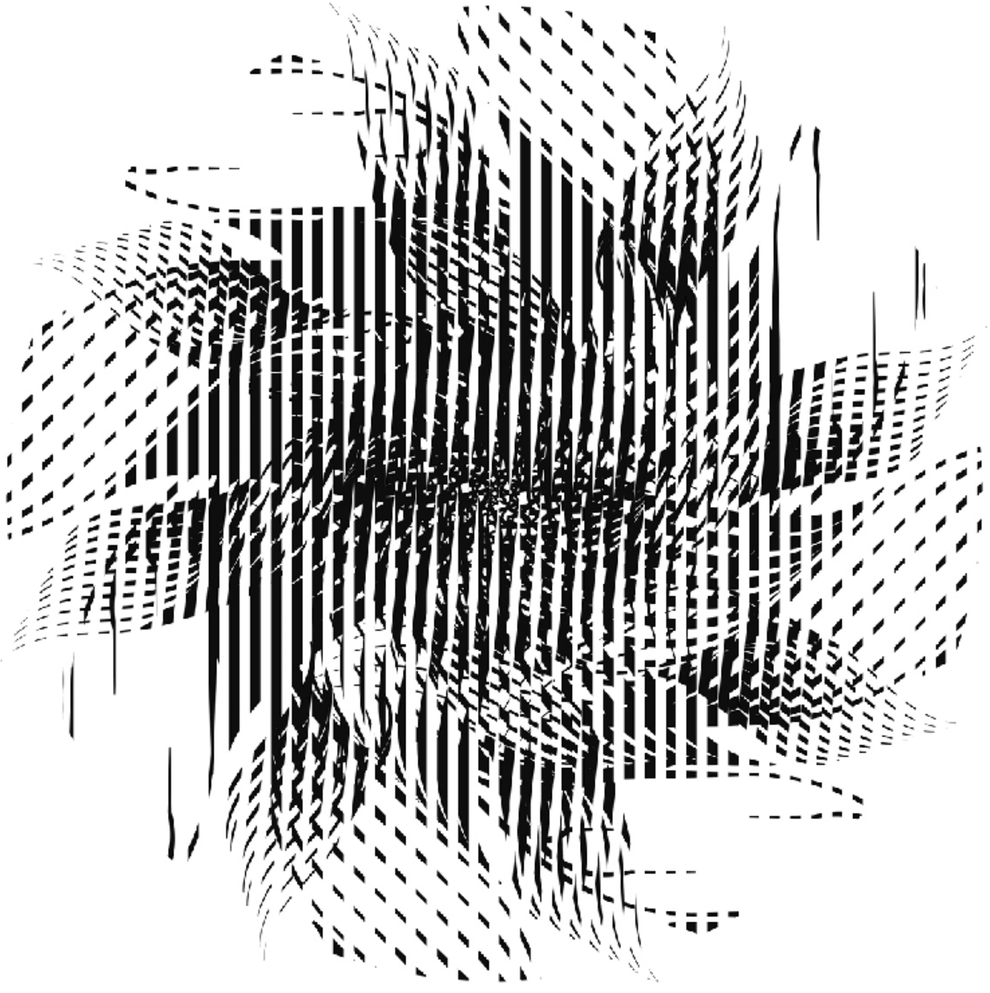
Center expanding



Slice.a

Variation #55

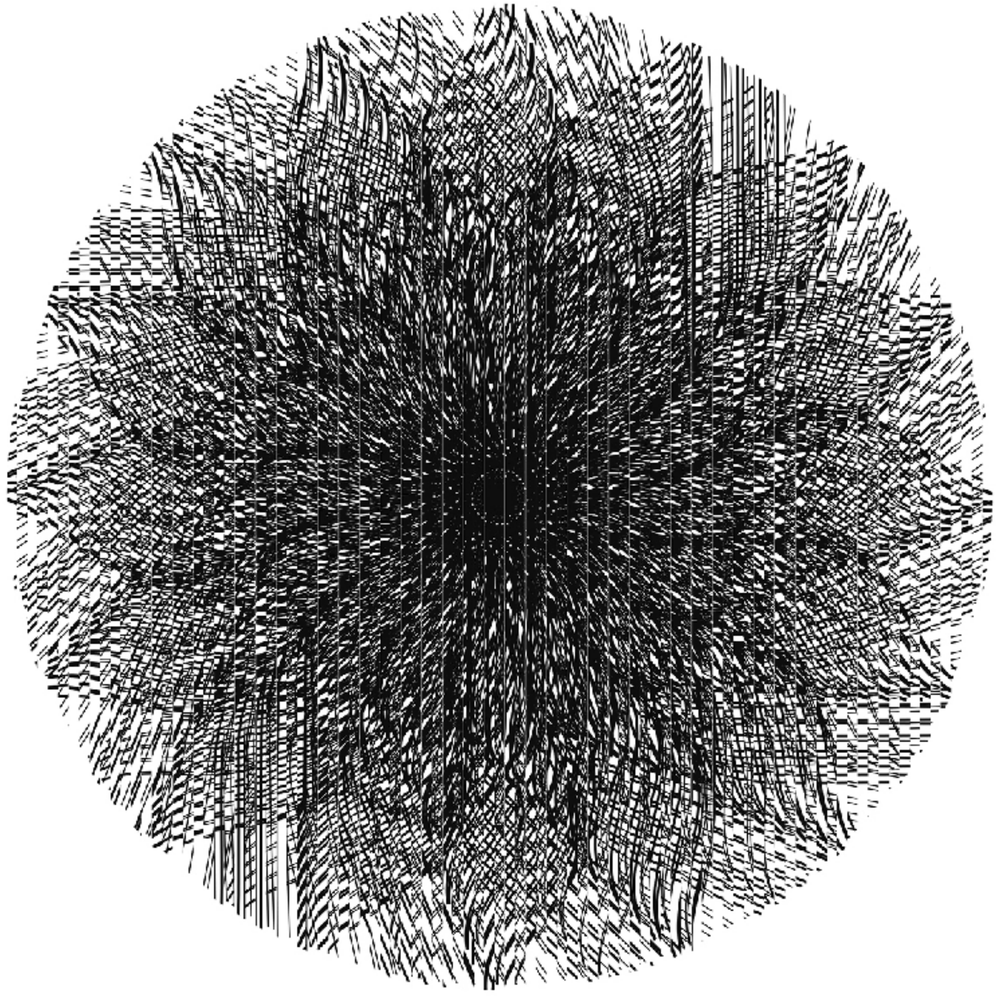
Stretching and reconstruction



Slice.a

Variation #56

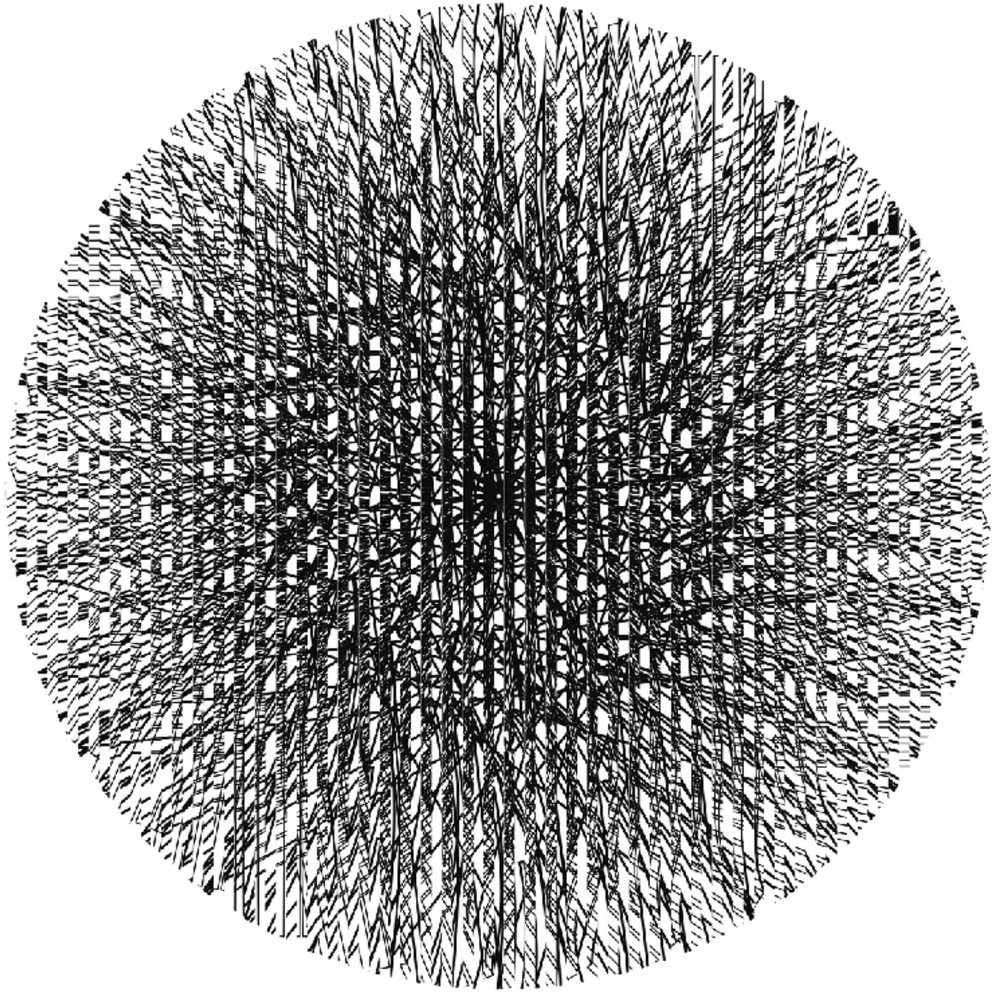
Center expanding



Slice.a

Variation #57

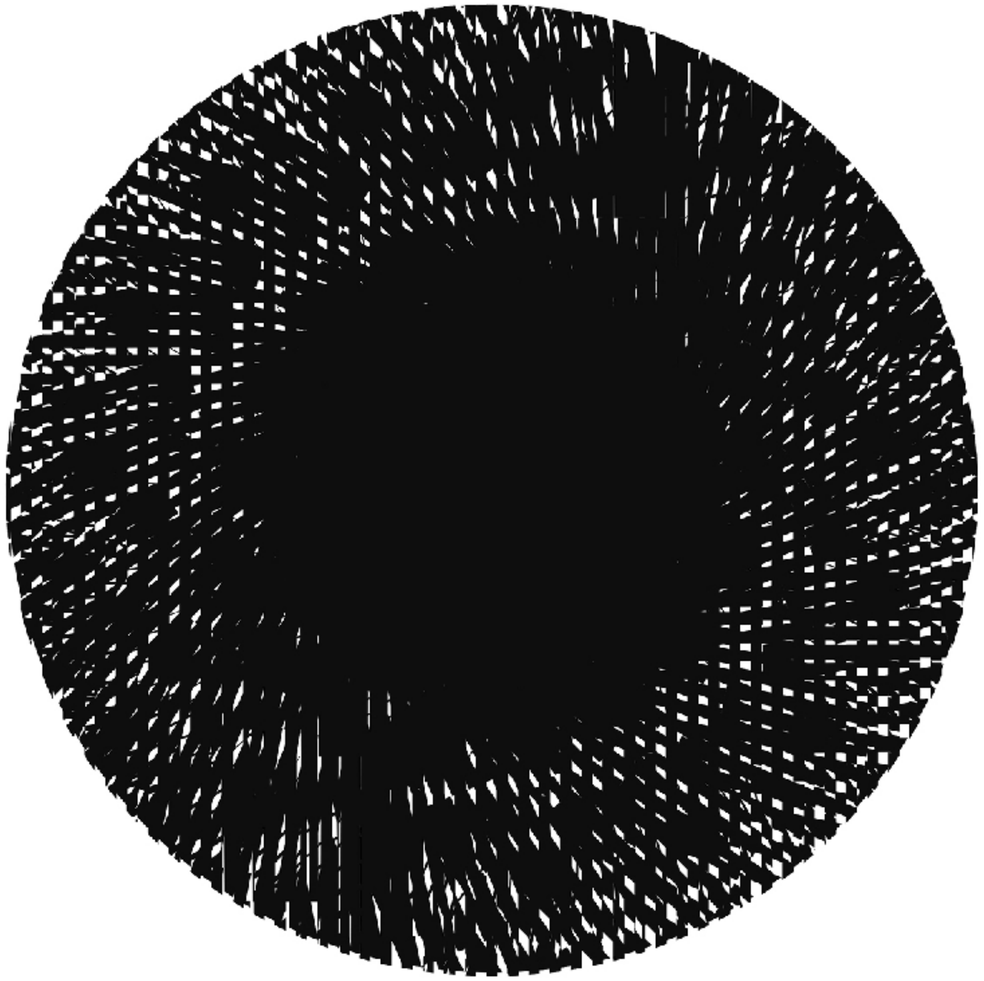
Stretching and reconstruction



Slice.a

Variation #58

Center expanding



Slice.a

Variation #59

Stretching and reconstruction

