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NEONATURES
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SPRING 2010
PROJECT

KAZ
Alluvian Ecospheres
BRAIDED RESEARCH FIELD

Parana River, Argentina

Braided river network upstream 04

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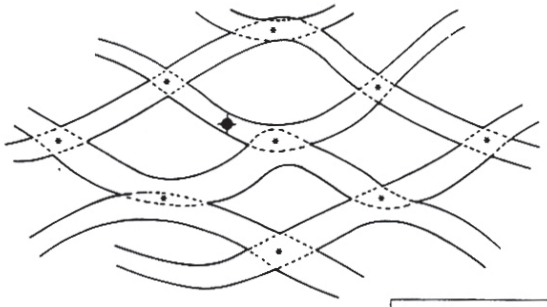
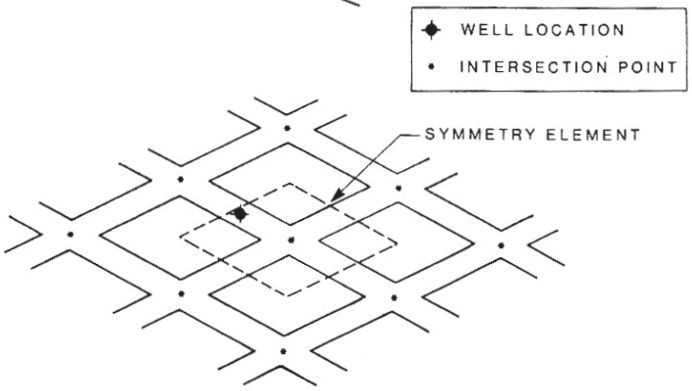
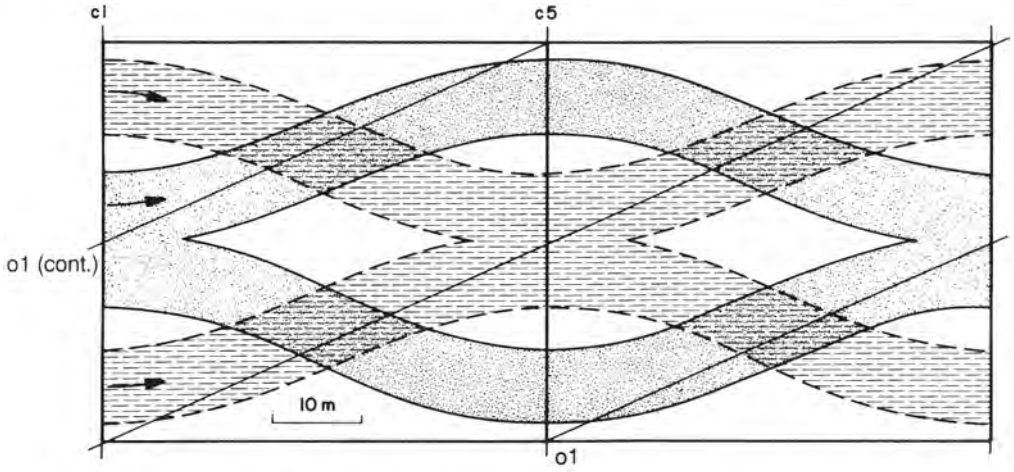
a. geological schematic



b. equivalent network



c. single braid module



Geo-metrics

a+b: abstraction of a braided fluvial system for well-test analysis and simulation. Single channel models were not sufficient to account for pressure response during the latest period of interconnectedness.
c: plan geometry of braided channel for the first model case.

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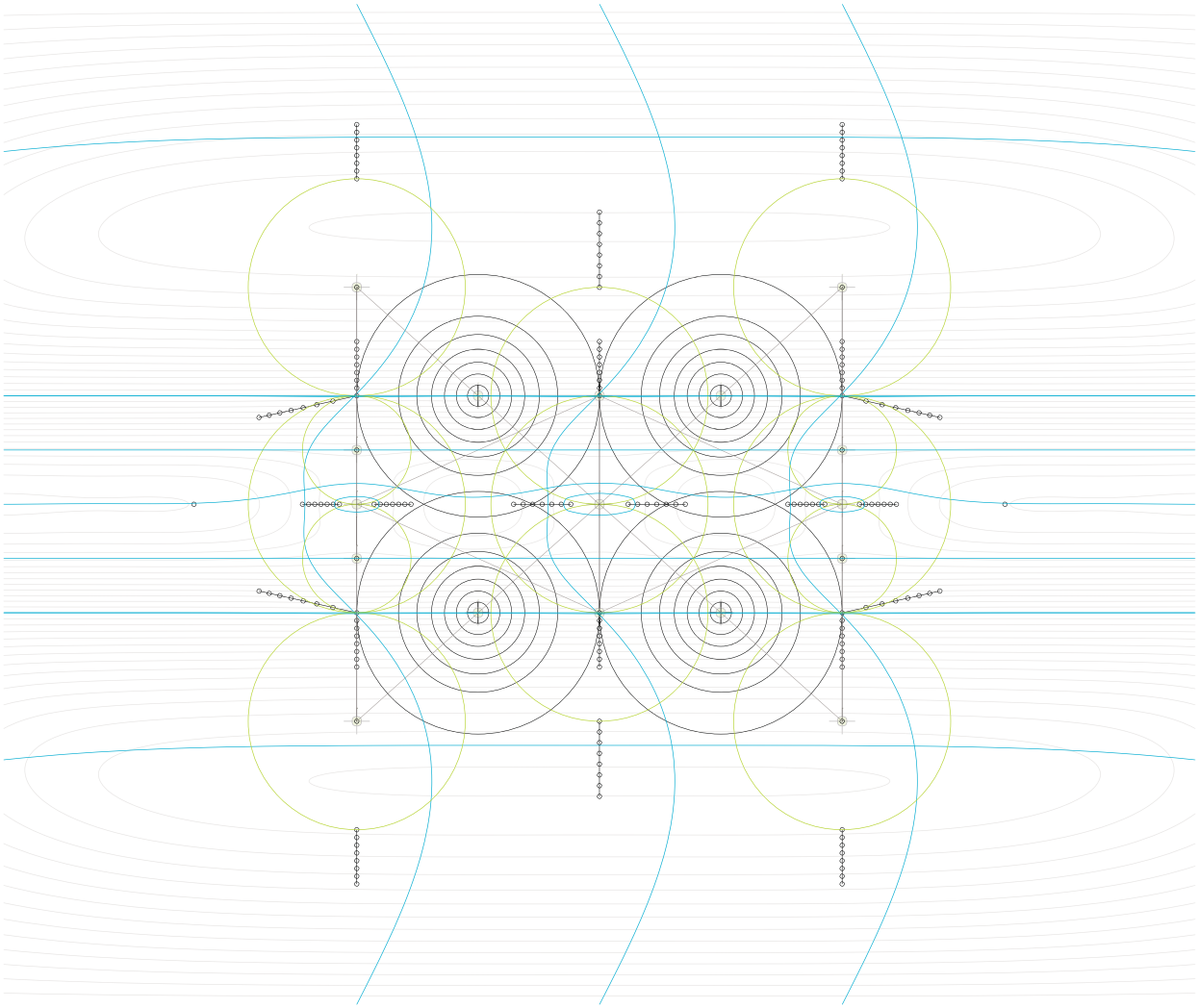

Braision Codex: Transverse Bar Conversion_circumscription

An evolved form of the central bar braiding, the mechanism is characteristic of steep shallow channels in which the lobes consist of coarse bed material, some of which protrudes above the water surface. Thin bedload sheets stall on top of or front of the lobe, which eventuall emerges. Flow is then deflected off the edges of the lobe where a pair of diagonalslip faces can develop.

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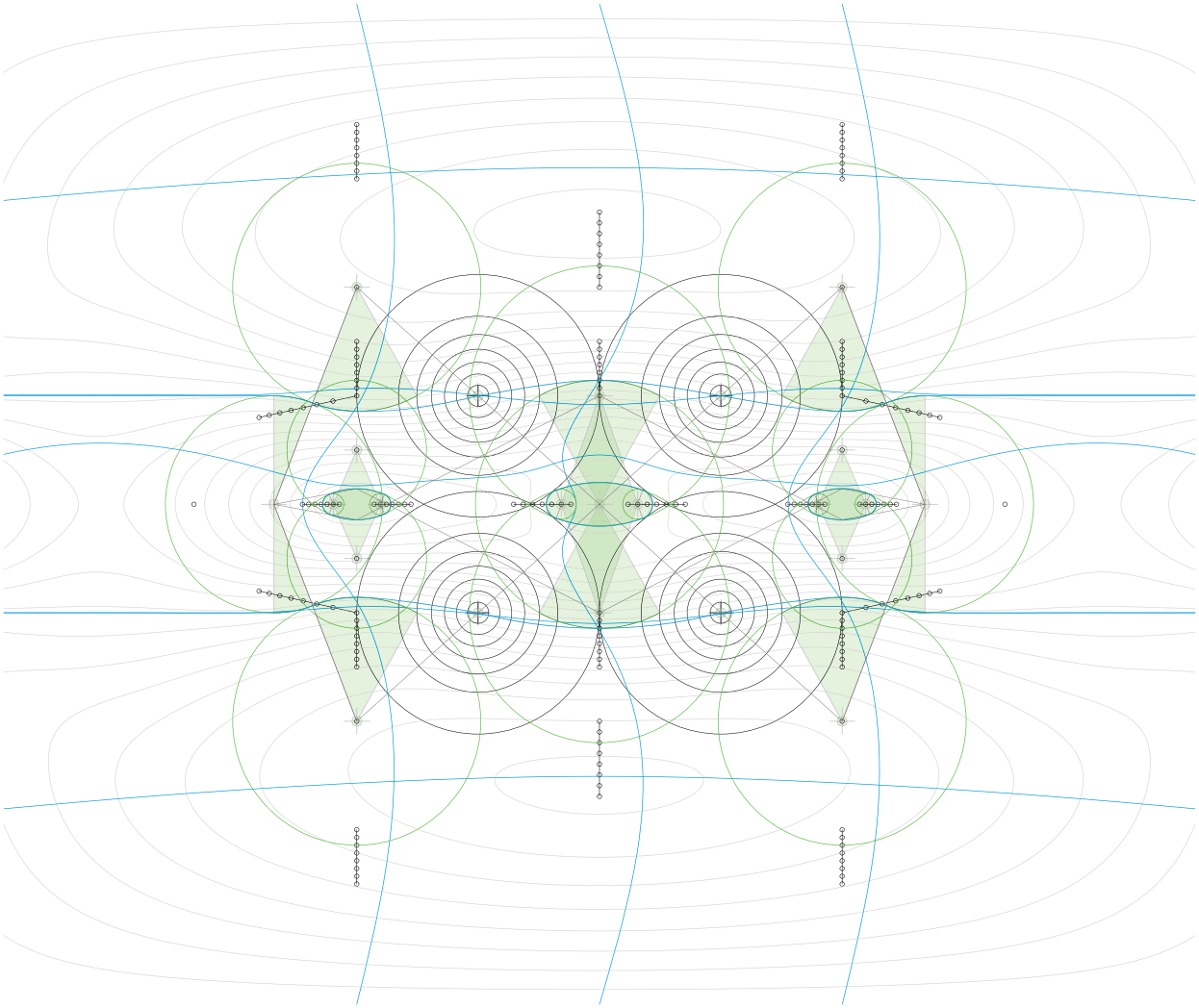

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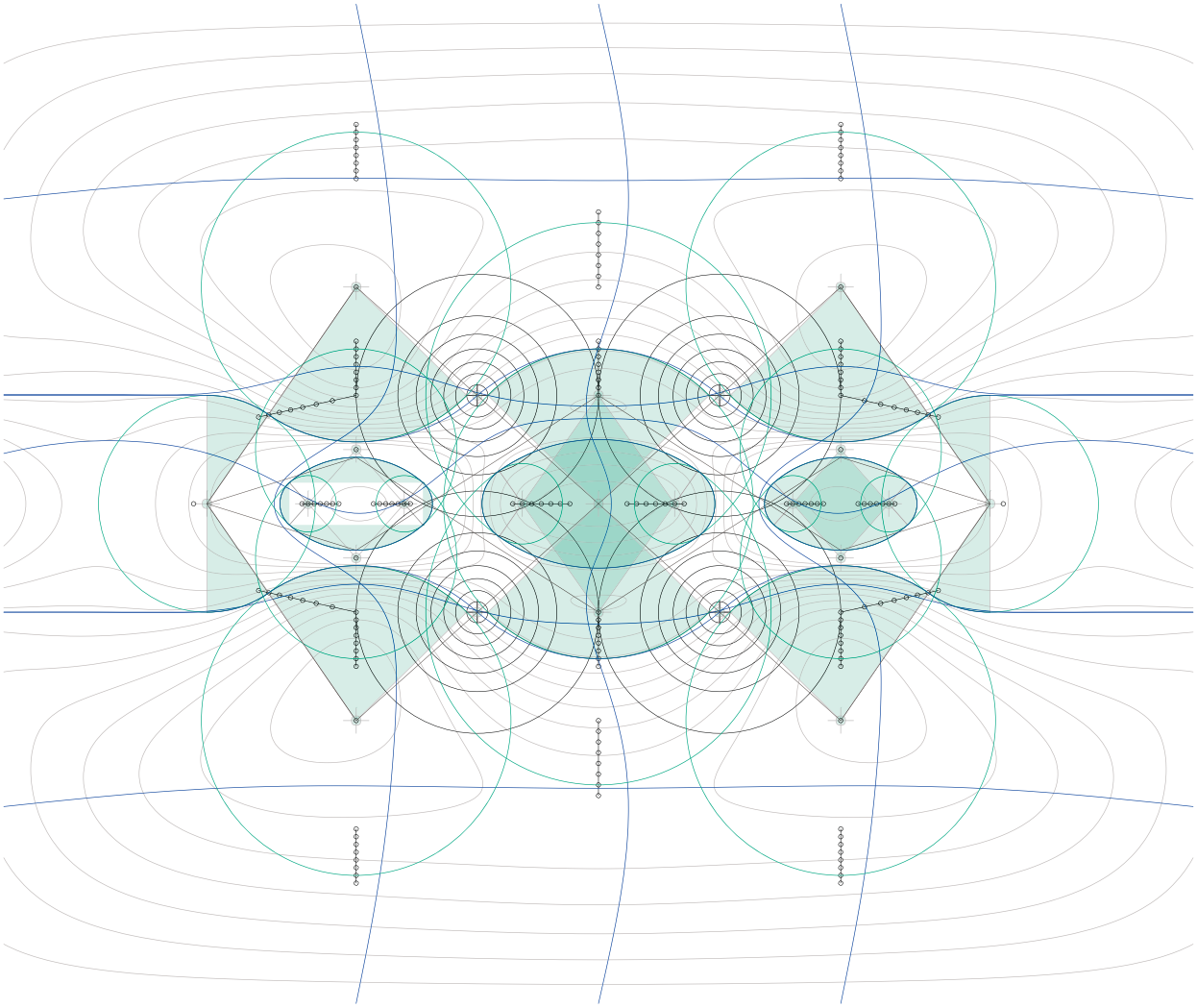

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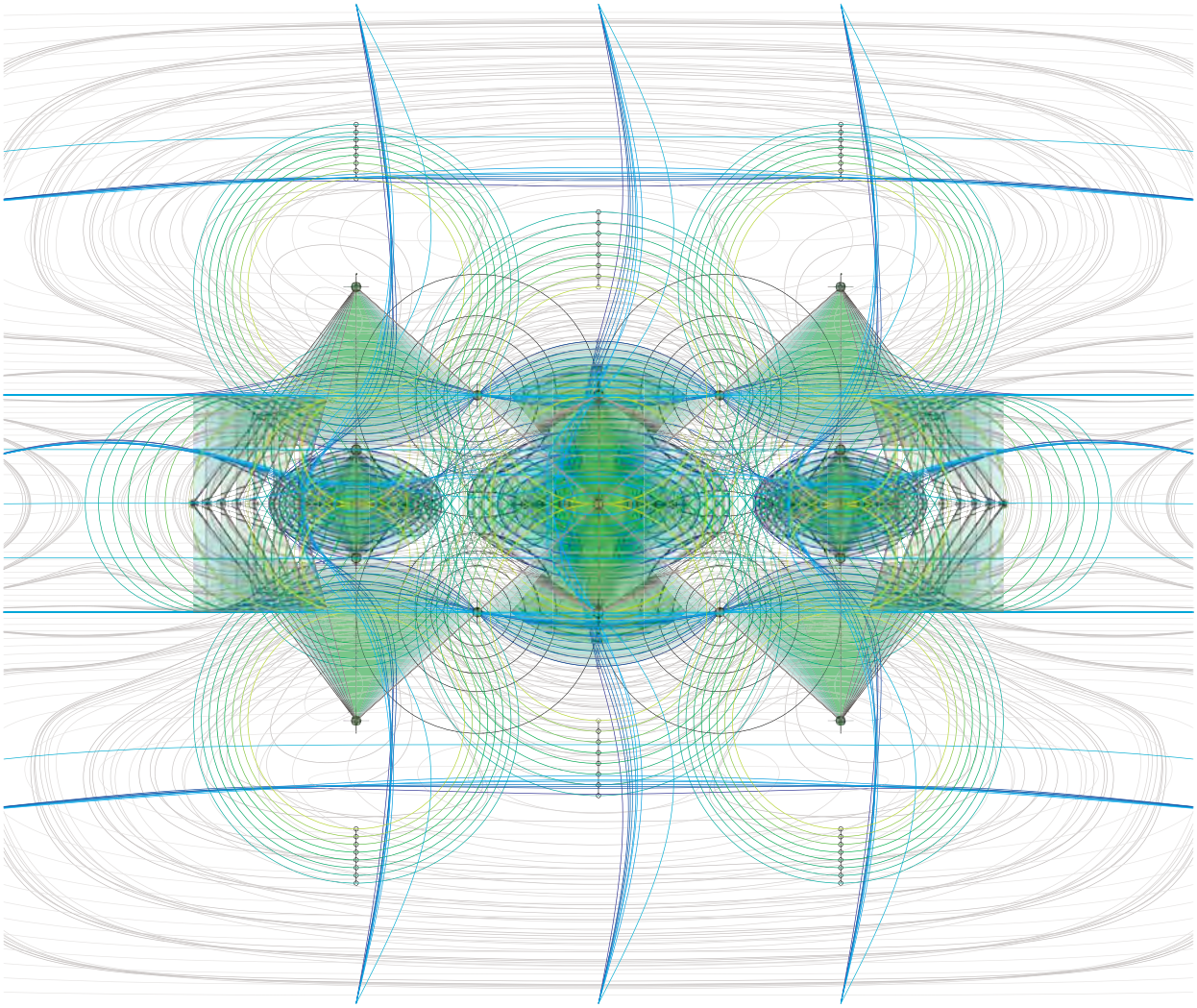

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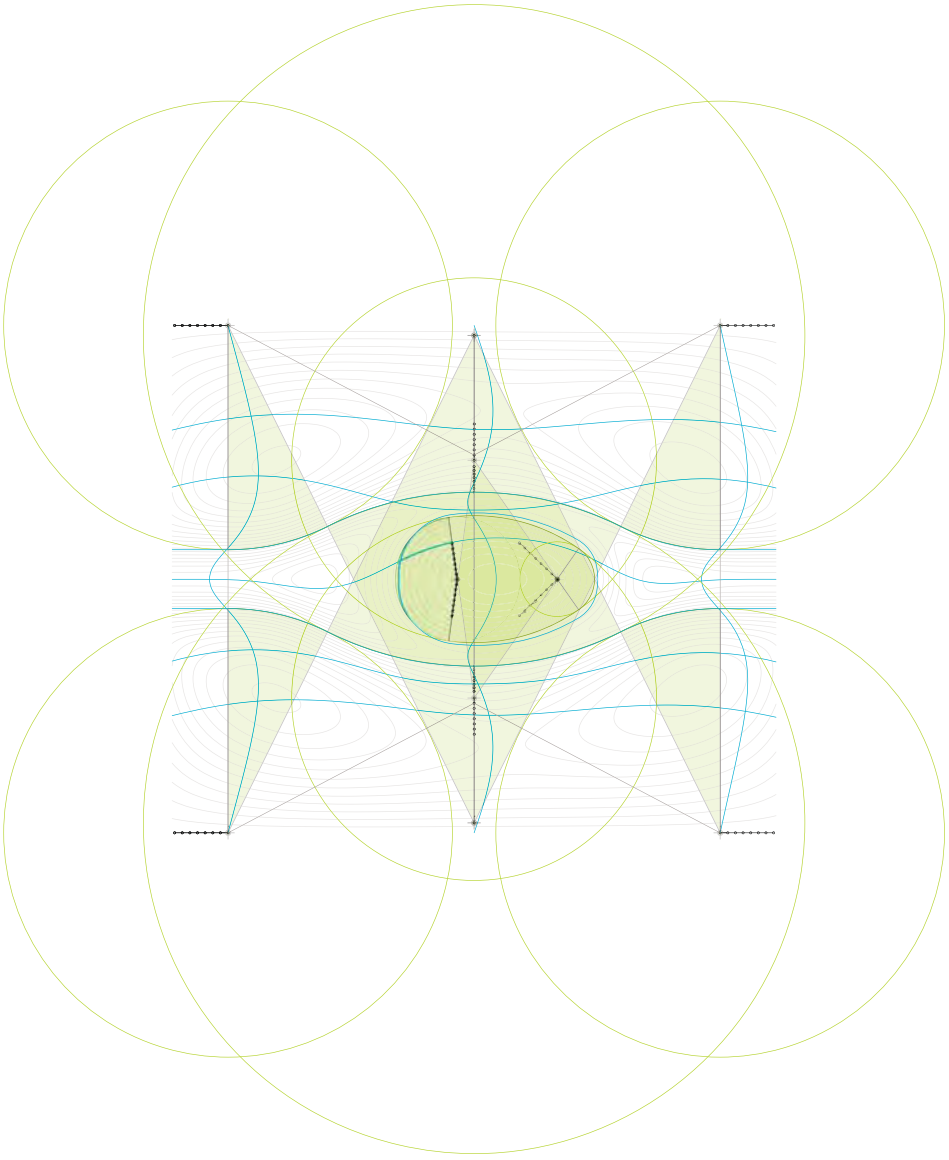

Braision Codex: Symmetrical Lobe Dissection_circumscription

Multiple dissection of a lobate bar. Requires high discharge and flume width for a bottleneck to cause a scour by impingement. The symmetricality, or the bottleneck on the downstream side causes flow overrun to erode the top surface over time. Simulation results in dissection of an evolved bar.

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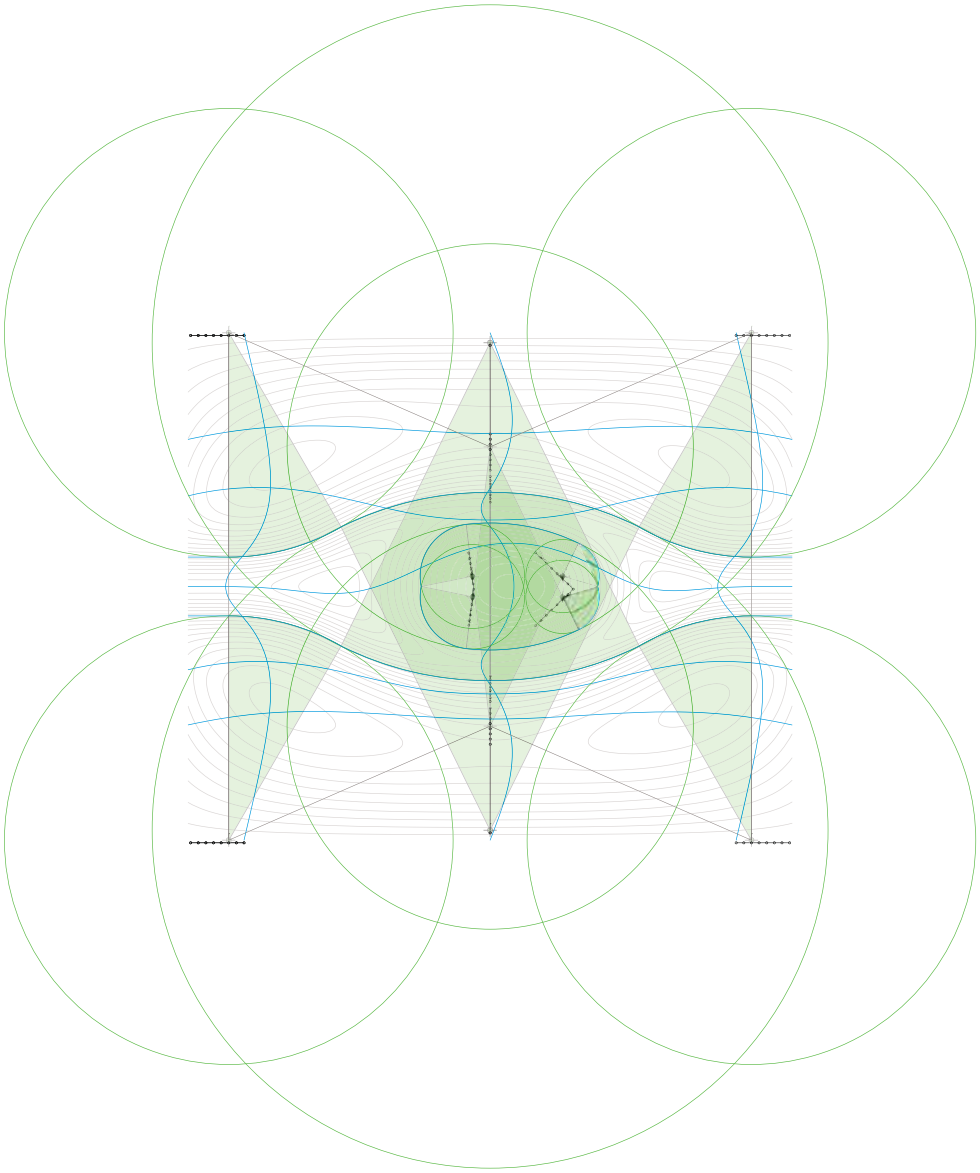

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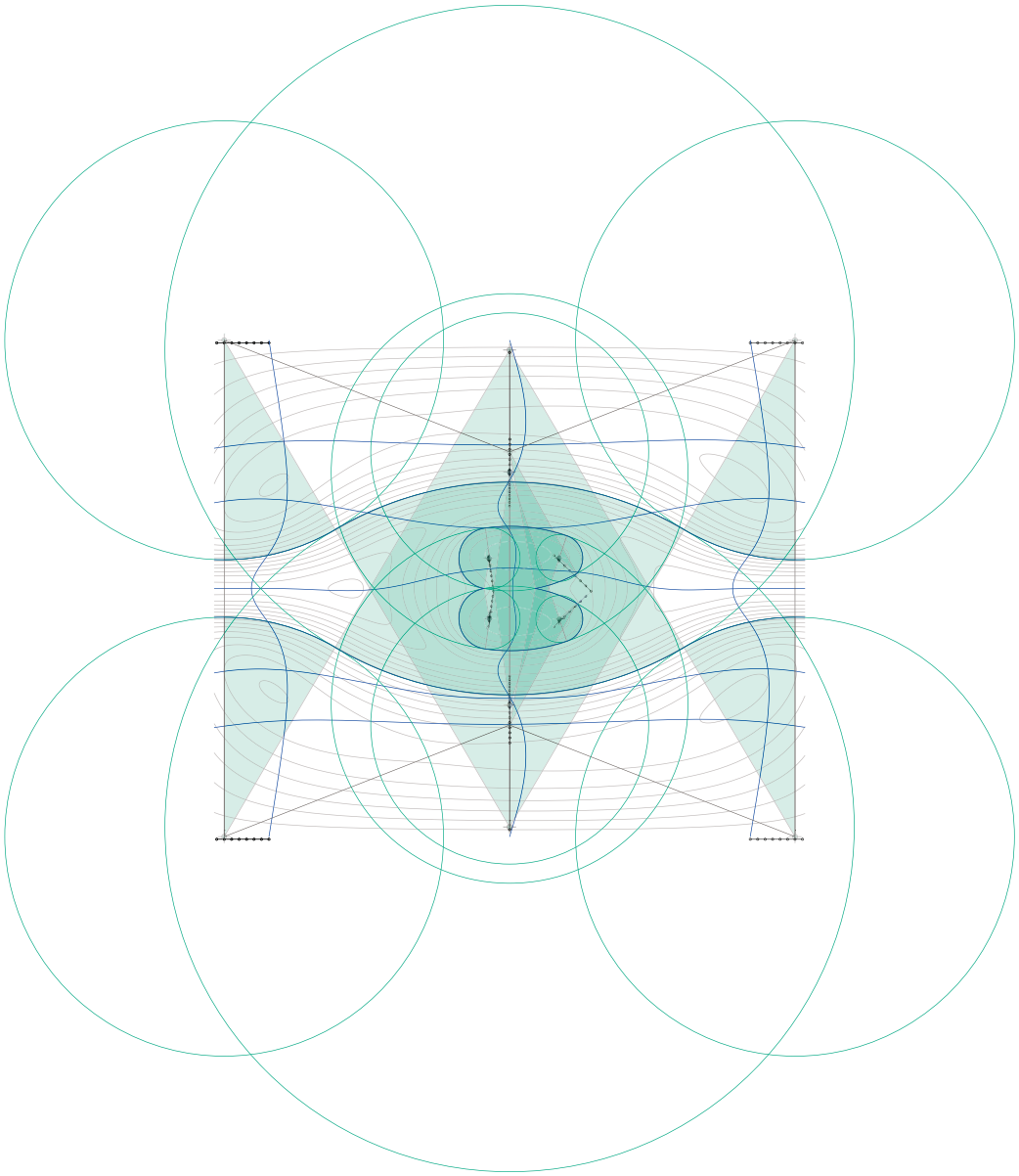

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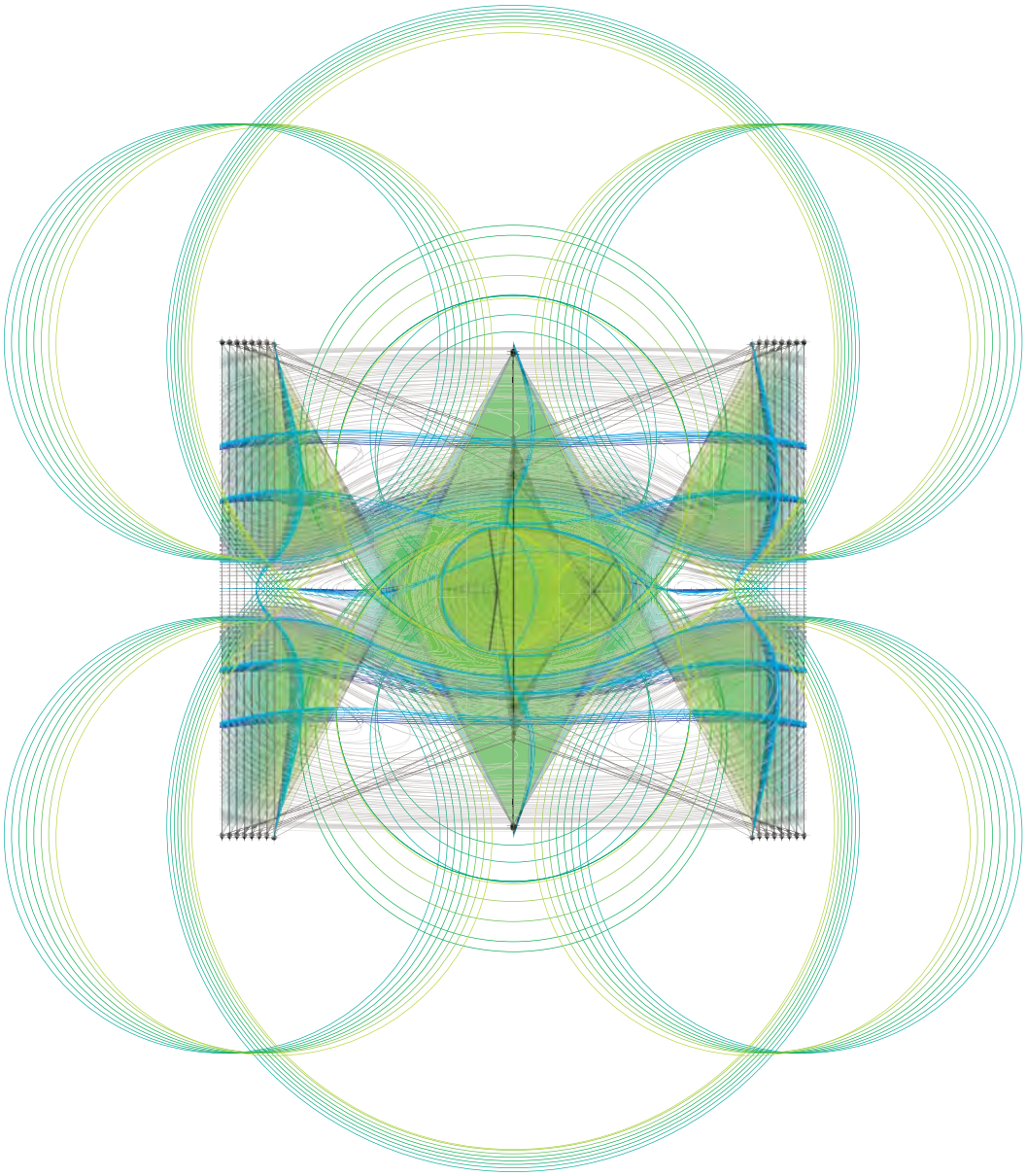

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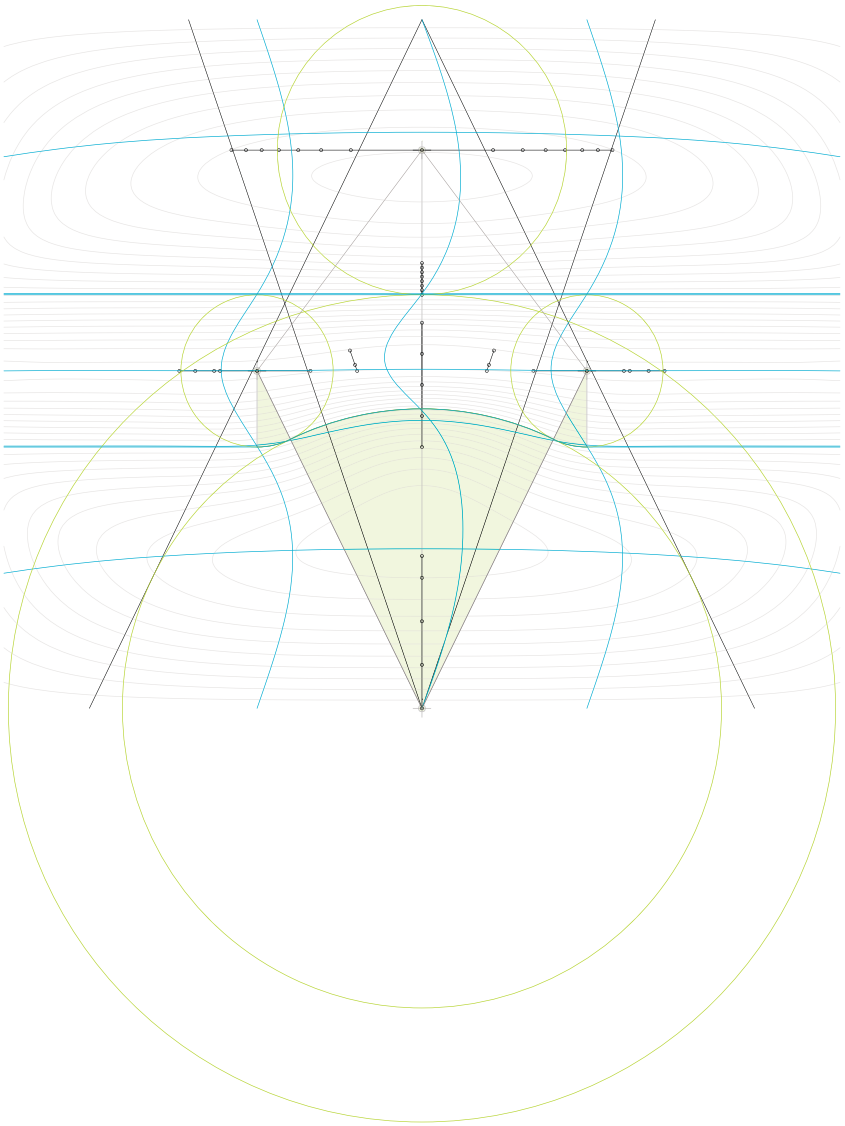

Braision Codex: Chute Cutoff_circumscription

Once diagonal bar forms exist, with flow obliquely across a wide shallow channel as in the single row alternate bar scheme the conditions are set for chute cutoff. This is an erosional process and involves headwards incision by flow taking a short cut across a bar.

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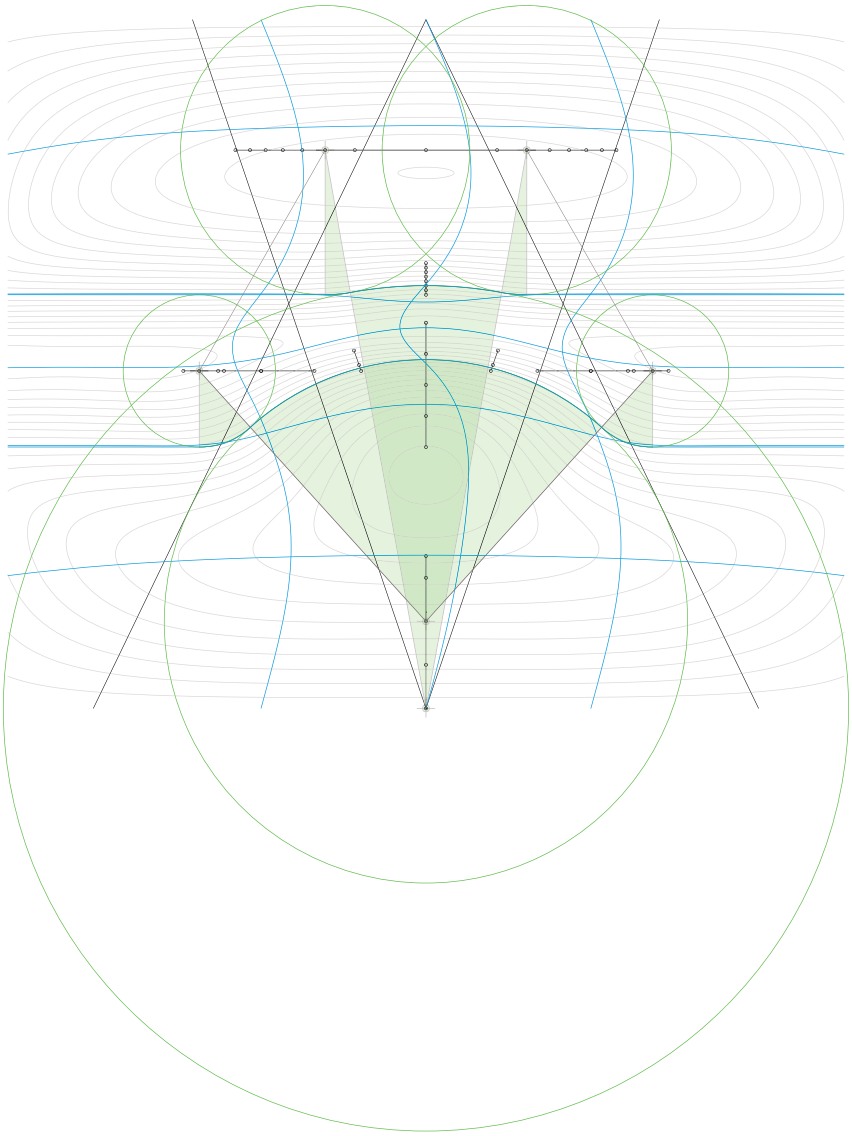

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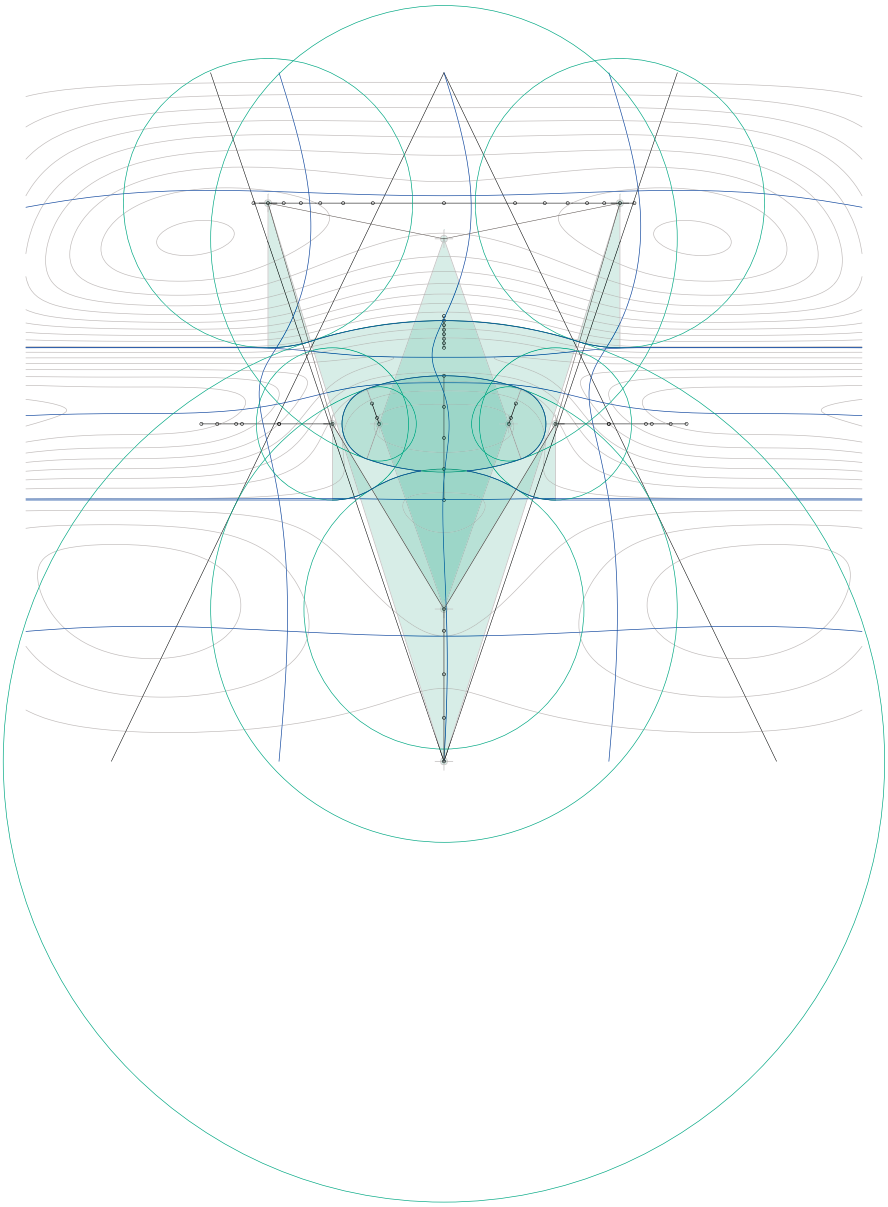

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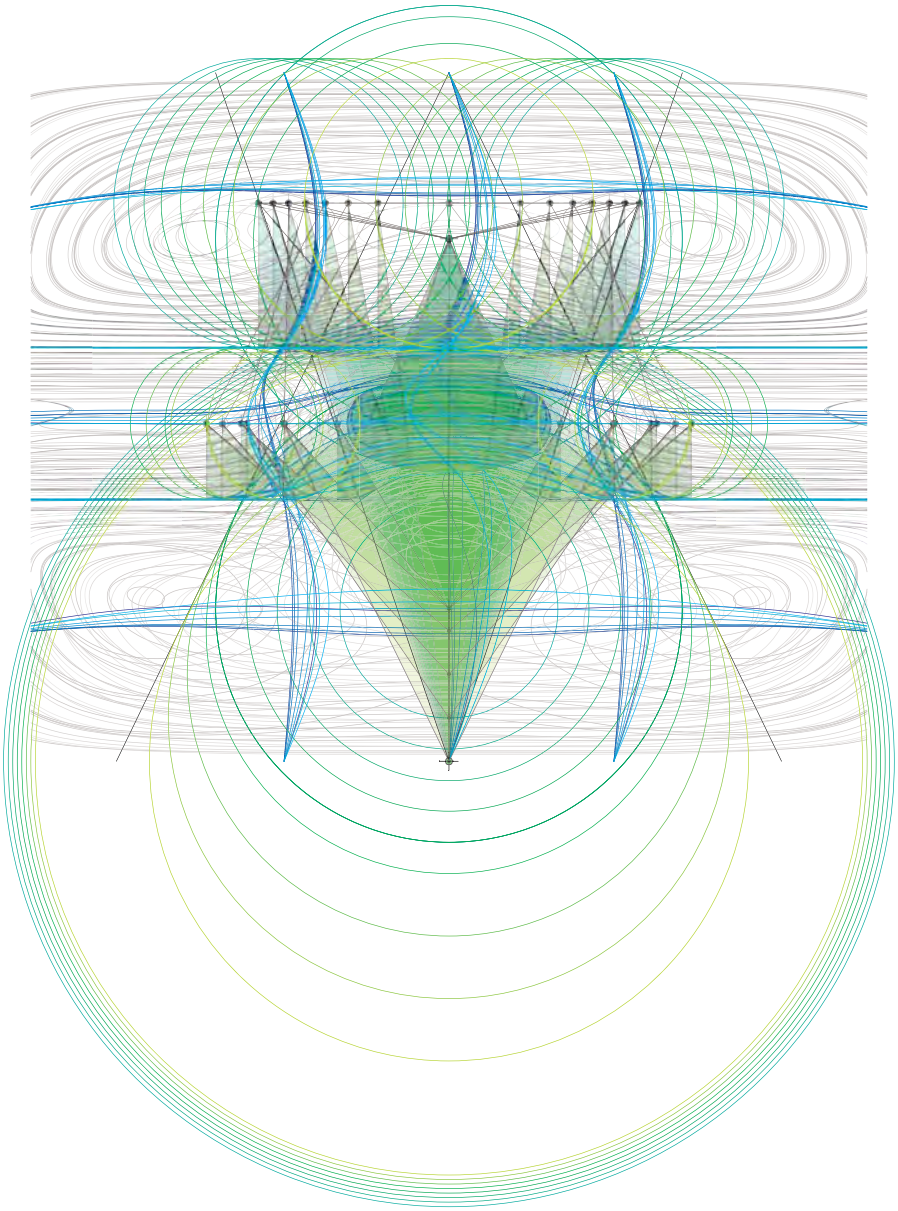

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