HEKATONIKOSAKOREN

Hekatonikosakoren, også kaldet 120-cellen, er en regulær polygon (en polykor) i fire dimensioner. Det er den firedimensionale analog til det tredimensionale dodekaeder, der består af 12 femkantede sideflader, 20 knudepunkter og 30 kanter.

Hekatonikosakoren har 120 "sideflader", men den befinder sig i et firedimensionalt rum, så fladerne er i virkeligheden tredimensionale: De er alle dodekaedre!

De todimensionale sideflader af disse dodekaedre er naturligvis femkanter, og der er 720 af dem. Der er 600 knudepunkter og 1200 kanter.

The hecatonicosachoron, also called the "120-cell", is a regular polytope in four dimensions. It is the four dimensional analogue of the three dimensional dodecahedron, that has 12 pentagonal faces, 20 vertices and 30 edges.

The hecatonicosachoron has 120 "faces", but they are in 4 dimen-sions, so they are in reality three-dimensional faces: they are all dodecahedrons!

The two-dimensional faces of these dodecahedrons are of course penta-gons, and there are 720 of them. There are 600 vertices and 1200 edges.

Billede: Aurélien Alvarez, Étienne Ghys, Jos Leys

NB: Denne del bortskæres

HEKATONIKOSAKOREN II

Udstillingsbilledet viser 120-cellen tegnet via stereografisk projektion. Det er dog ikke den normale stereografiske projektion fra kugleoverfladen i tredimensionalt rum på en plan gennem sydpolen, men i stedet en stereografisk projektion fra en kugleoverflade i fire dimensioner på det tredimensionale rum.

Projektionen viser 120-cellens symmetrier. Bemærk, at objektets todimensionale sideflader alle er dele af sfæriske flader, og at de endimensionale kanter alle er dele af cirkler.

The images in the exposition show the 120-cell drawn through stereographic projection, but of course not the normal stereographic projection from a sphere in our three dimensional space on to a plane through the south pole. This is a stereographic projection from a sphere in four dimensions onto our space of three dimensions.

This projection shows the symmetries of the 120 cell very well. Note also that the two dimensional faces of the object are all pieces of spheres, and that the vertices are all segments of circles.

Billede: Aurélien Alvarez, Étienne Ghys, Jos Leys

NB: Denne del bortskæres

ANOSOV-STRØM

Aritmetik er studiet af tal.
Topologi er studiet af former.
Dynamik er studiet af bevægelse.

Nogle gange har fænomener fra arit-metikken et dynamisk aspekt og laver interessante former! På dette billede ser du former, der stammer fra den såkaldte "modulære strøm", der er fundamental for forståelsen af tal og i særdeleshed primtal.

Arithmetic is the study of numbers.
Arithmetic is the study of shapes.
Topology is the study of shapes.
Dynamics is the study of motion.

Sometimes, concepts coming from arithmetic have a dynamical aspect and create interesting shapes! In this picture, you see shapes produced by the socalled "modular flow" which is fundamental to understand numbers, and in particular prime numbers.

Billede: Aurélien Alvarez, Étienne Ghys, Jos Leys

NB: Denne del bortskæres