

Mandelbrotov skup

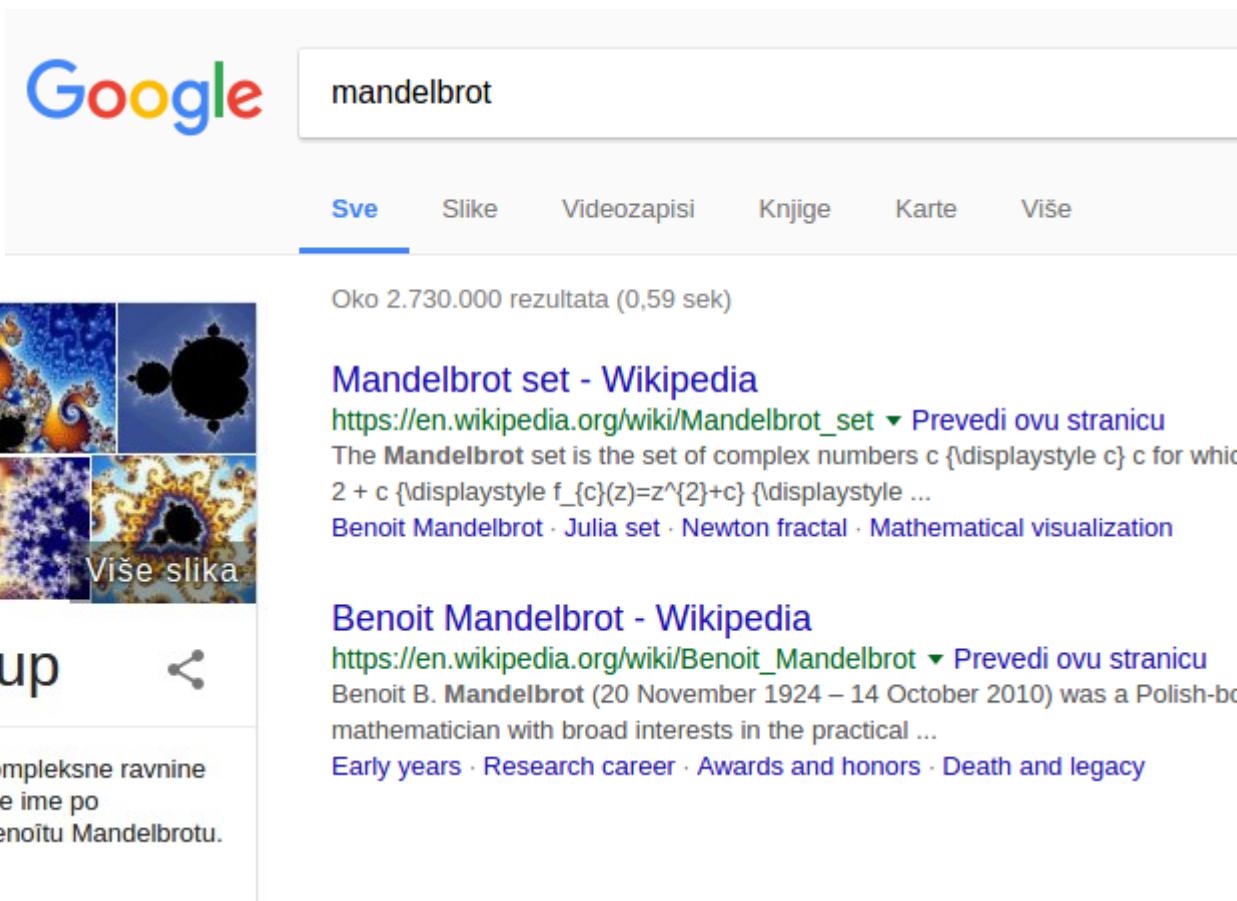
Šime Šuljić

Gimnazija i strukovna škola Jurja Dobrile Pazin



ISTRAKON 2017.

Mandelbrot - 2,7 milijuna stranica



The image shows a Google search results page for the query "mandelbrot". The search bar at the top contains the text "mandelbrot". Below it, a navigation bar includes tabs for "Sve" (All), "Slike" (Images), "Videozapis" (Videos), "Knjige" (Books), "Karte" (Maps), and "Više" (More). A search count of "Oko 2.730.000 rezultata (0,59 sek)" is displayed. The first result is a link to the "Mandelbrot set - Wikipedia" page, which includes a snippet of text about the set being the complex numbers c for which $f_c(z) = z^2 + c$ remains bounded. Below this, another result is shown for "Benoit Mandelbrot - Wikipedia", with a snippet about Benoit B. Mandelbrot being a Polish-American mathematician.

mandelbrot

Sve Slike Videozapis Knjige Karte Više

Oko 2.730.000 rezultata (0,59 sek)

Mandelbrot set - Wikipedia
https://en.wikipedia.org/wiki/Mandelbrot_set ▾ Prevedi ovu stranicu
The Mandelbrot set is the set of complex numbers c for which the sequence $f_c(z) = z^2 + c$ remains bounded when iterated from $z = 0$. It is a fractal subset of the complex plane, specifically the region where the Julia sets for the family $f_c(z) = z^2 + c$ are connected. The boundary of the Mandelbrot set is a highly complex, fractal-like curve. It is named after the Polish-American mathematician Benoit Mandelbrot, who first published its properties in 1977. The set is often visualized using computer-generated fractal renderings, which reveal intricate, self-similar patterns that repeat at different scales.

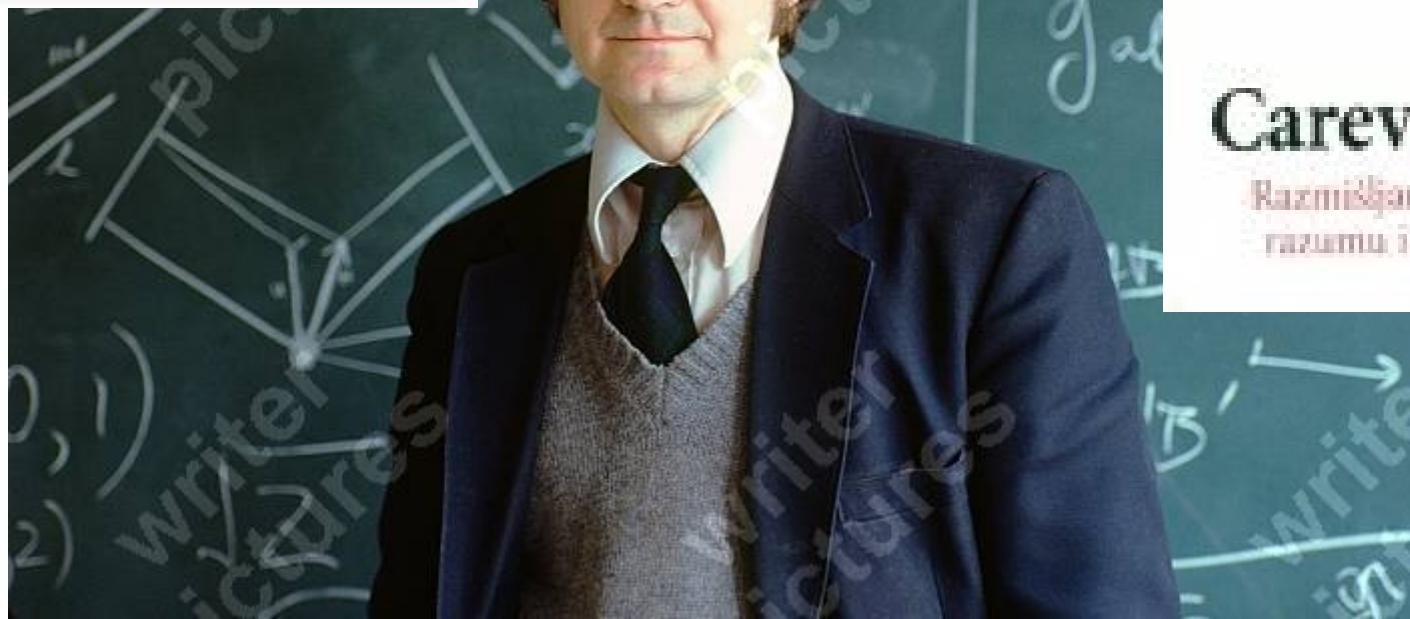
Benoit Mandelbrot - Wikipedia
https://en.wikipedia.org/wiki/Benoit_Mandelbrot ▾ Prevedi ovu stranicu
Benoit B. Mandelbrot (20 November 1924 – 14 October 2010) was a Polish-American mathematician with broad interests in the practical applications of mathematics. He is best known for his work on fractal geometry, which has had a significant impact on various fields, including science, technology, and art. His most famous contribution is the Mandelbrot set, a fractal that he discovered while working at IBM's Watson Research Center in the 1970s. The set is a mathematical object that exhibits self-similarity at different scales, and it has become one of the most recognizable icons of modern mathematics. Mandelbrot's work on fractals has also led to new insights in fields such as chaos theory, signal processing, and finance.

Mandelbrotov skup

Mandelbrotov skup je skup točaka c kompleksne ravnine za koje je Julijin skup povezan. Dobio je ime po francusko-američkom matematičaru Benoitu Mandelbrotu.
[Wikipedia](#)

**tvu? Kako da se ljudi poste-
ve prema različitim stavovi-
ma znanstvenika?**

– To je vrlo težak problem. Da biste uopće dosegli točku za razumijevanje znanstvenih tema, morate mnogo toga znati, uključujući i prilično tešku matematiku. Zato se u javnosti vrlo često plasiraju površni odgovori. Govori se u analogijama: ova je teorija poput ovoga ili onoga... A time se zapravo ništa ne objašnjava o samoj stva-



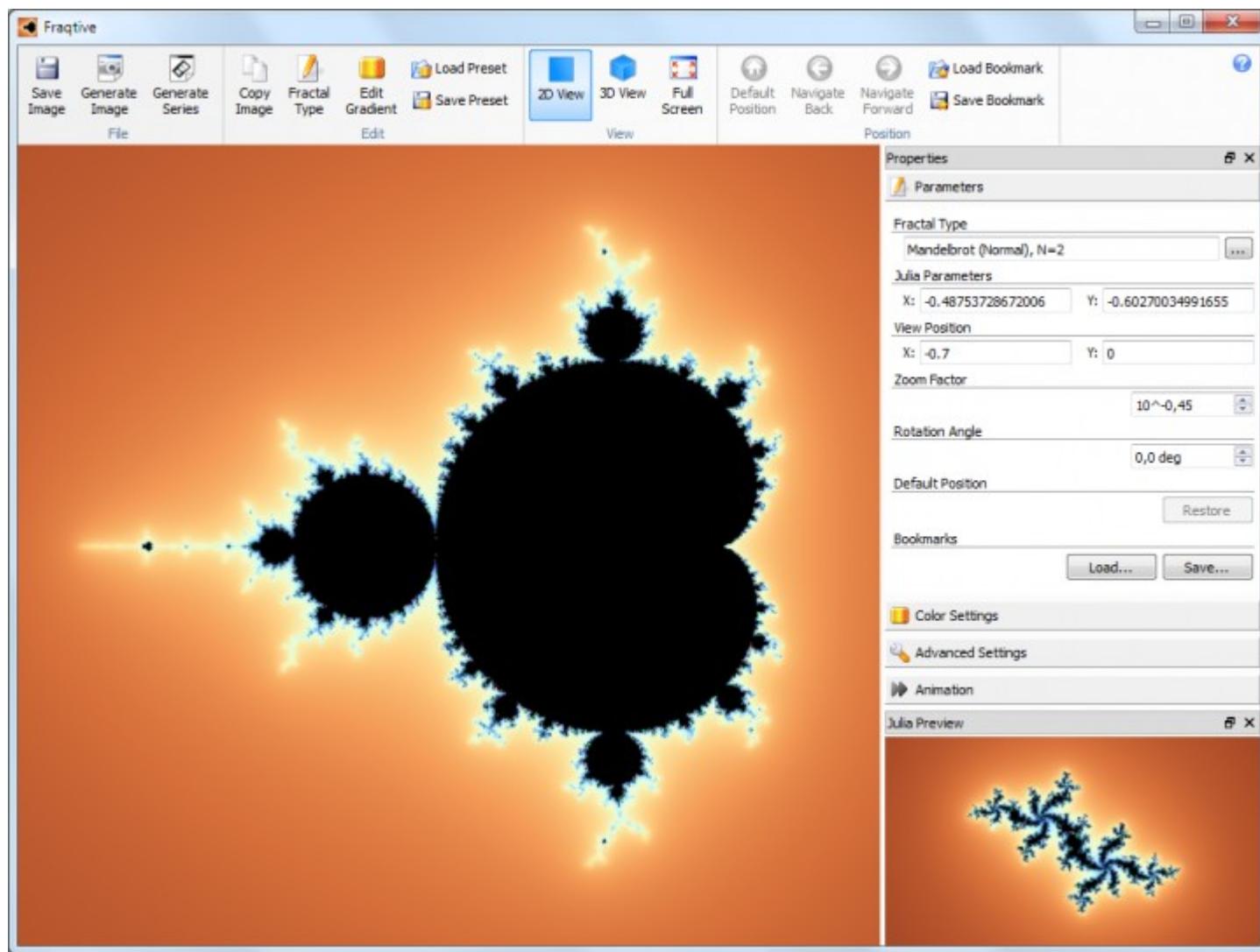
ROGER PENROSE



Carev novi um

Razmišljanja o računalima,
razumu i zakonima fizike

Fraqtive



Iteracija (lat. ponavljanje)

$$z \rightarrow z^2 + c$$

$$z_1 = 0^2 + c$$

Iteration

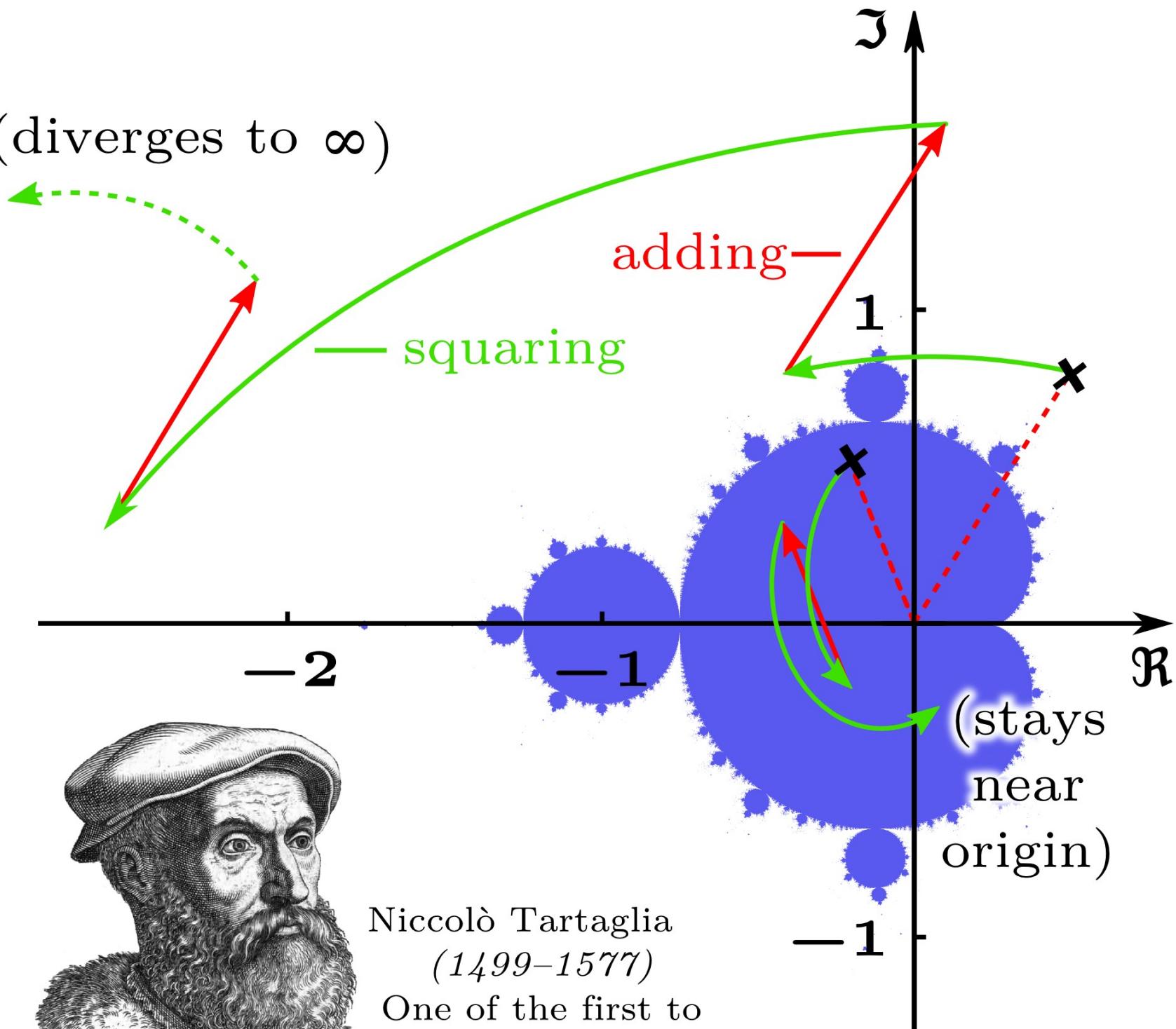
$$z_2 = z_1^2 + c$$

$$z_3 = z_2^2 + c$$

...

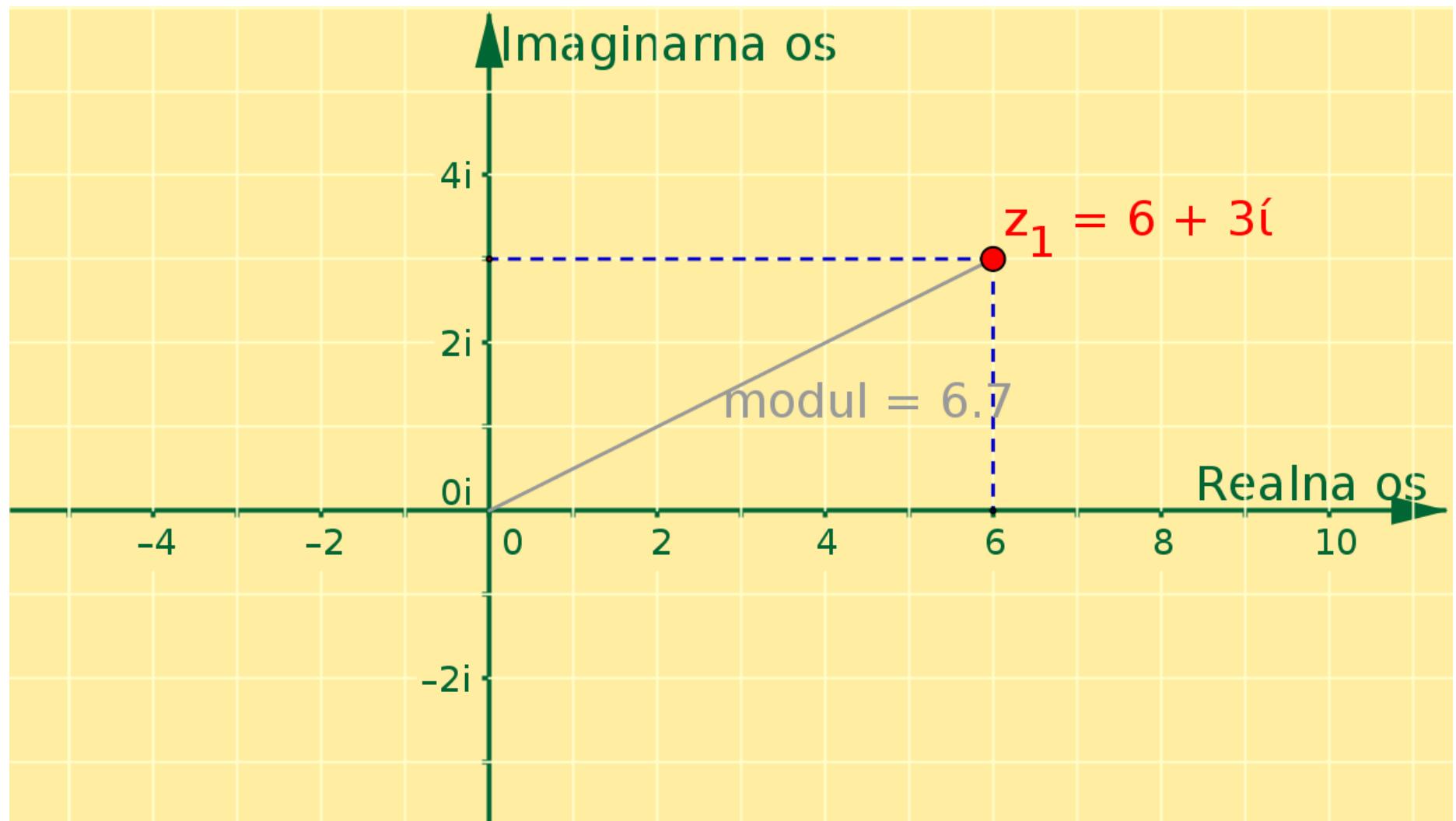
$$z_n = z_{n-1}^2 + c$$

(diverges to ∞)

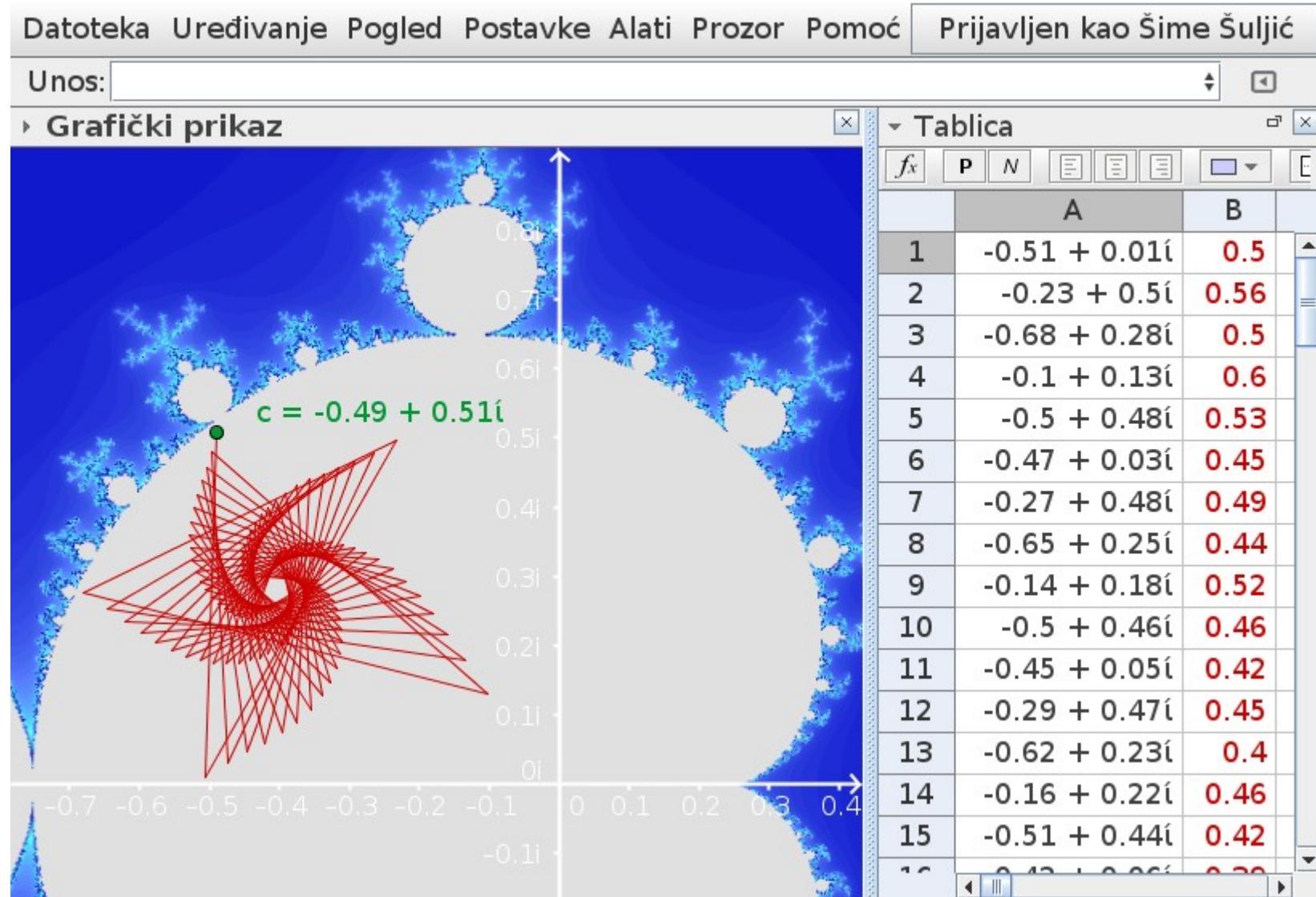


Niccolò Tartaglia
(1499–1577)
One of the first to
use complex numbers

Kompleksna ravnina



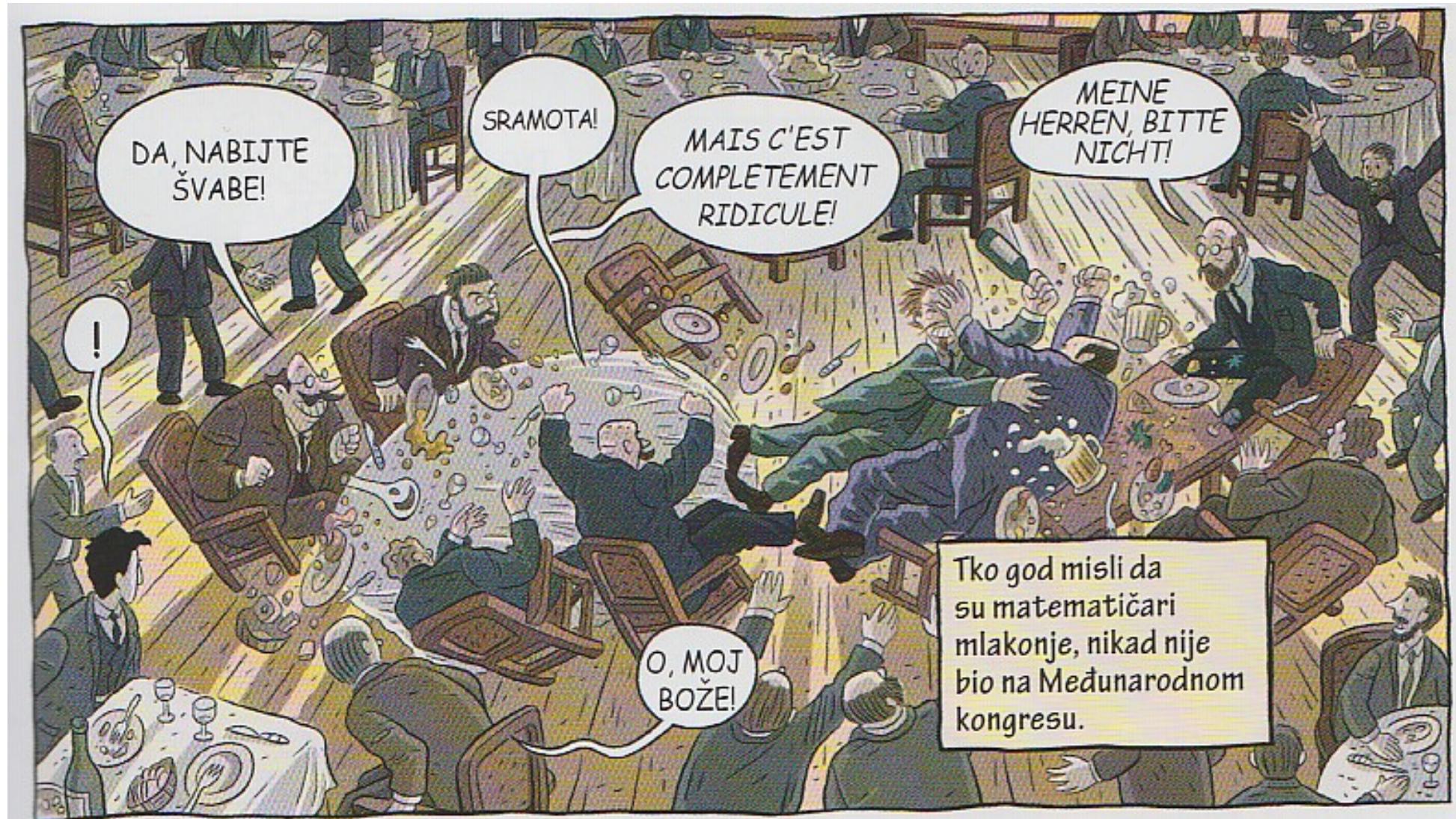
Iteracije



Benoit Mandelbrot (1924. - 14.10.2010.)



1900. godine u Parizu



J'ACCUSE MONSIEUR CANTOR!¹

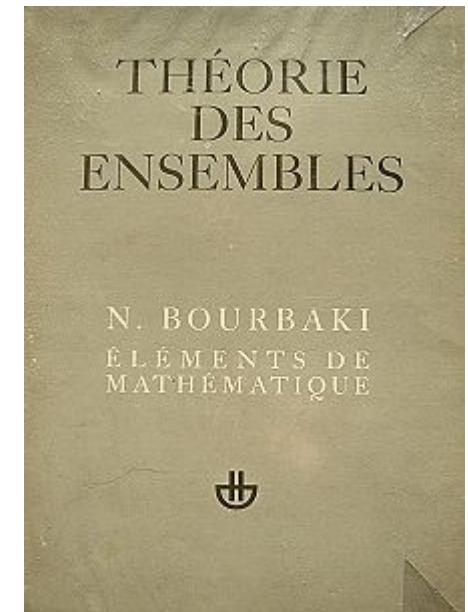
Teorija skupova je bolest od koje matematiku treba izlječiti!

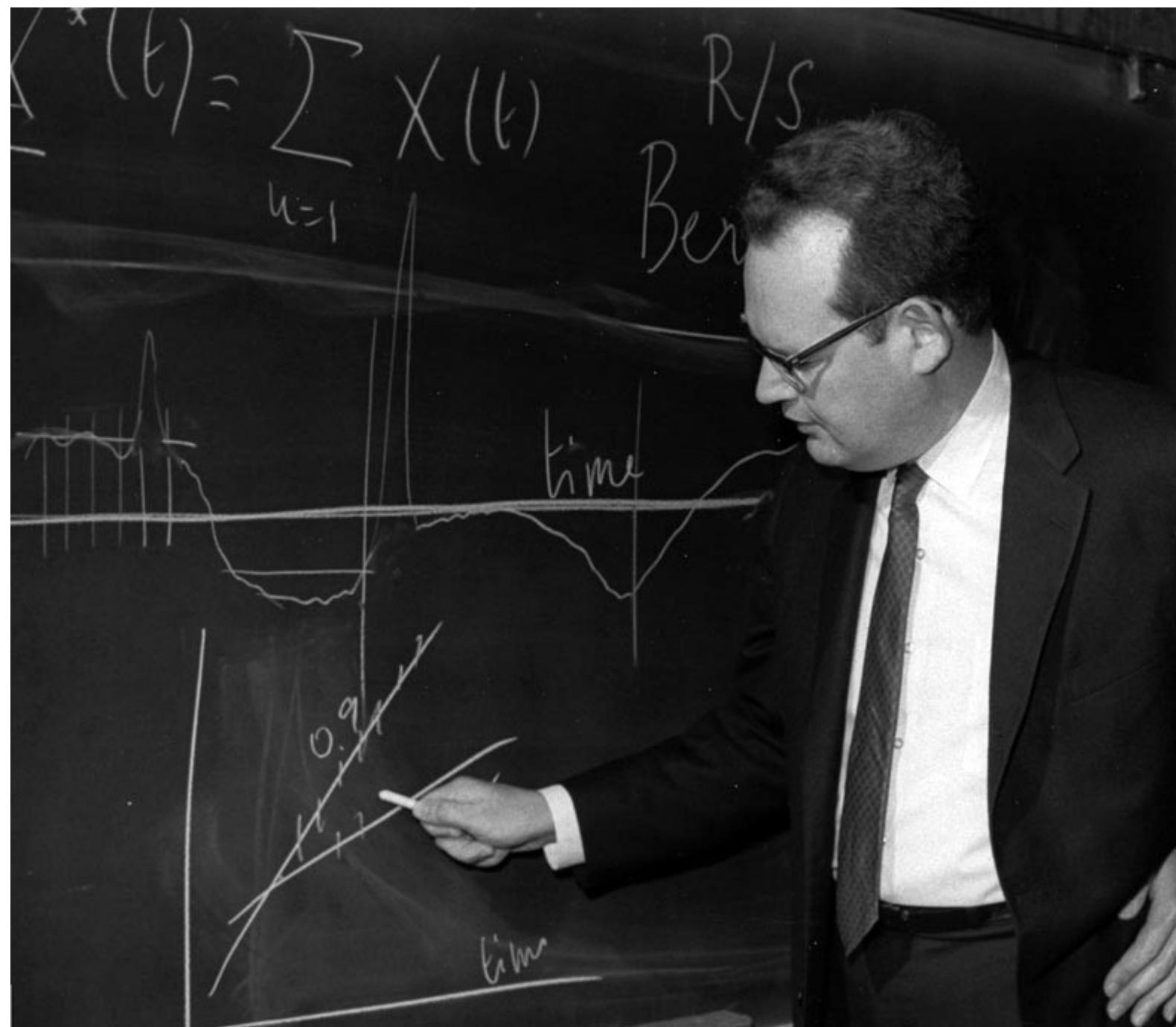
Nitko nas neće izgnati iz raja koji nam je stvorio *Herr* Cantor!



Nicolas Bourbaki, XX. stoljeće kolektivni pseudonim

- Henri Cartan, Claude Chevalley, Jean Coulomb, Jean Delsarte, Jean Dieudonné, Charles Ehresmann, René de Possel, **Szolem Mandelbrojt**, André Weil...
- Hyman Bass, Laurent Schwartz, Jean-Pierre Serre, **Alexander Grothendieck**, Jean-Louis Koszul, Samuel Eilenberg, Serge Lang and Roger Godement.





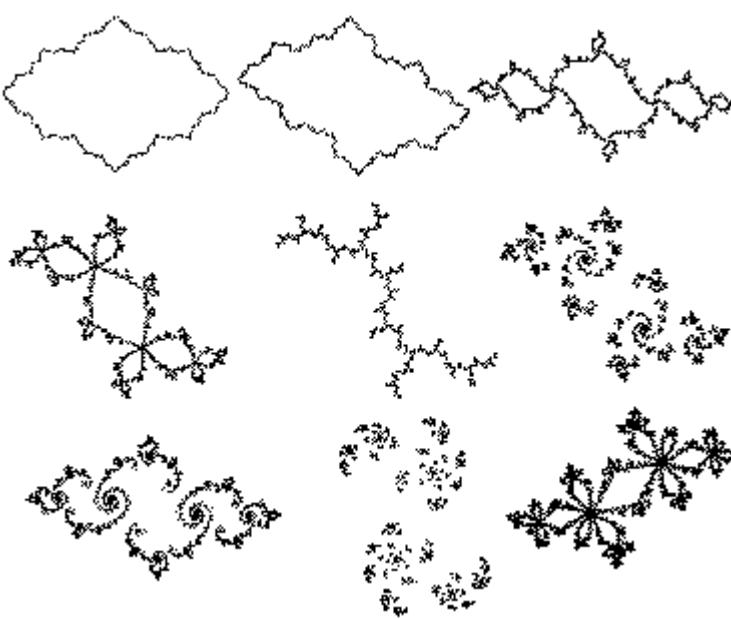




Pierre Fatou
1878 - 1929

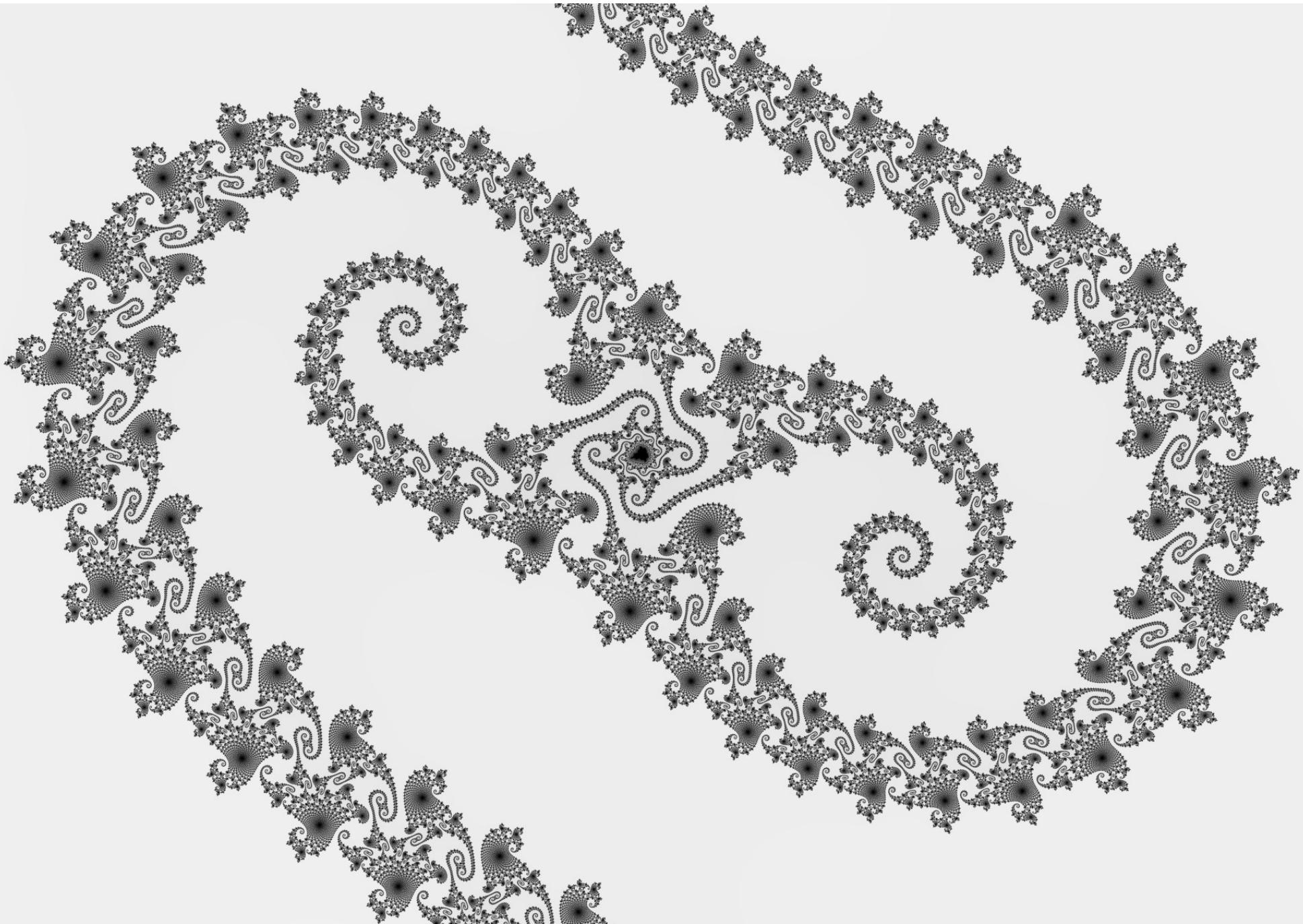


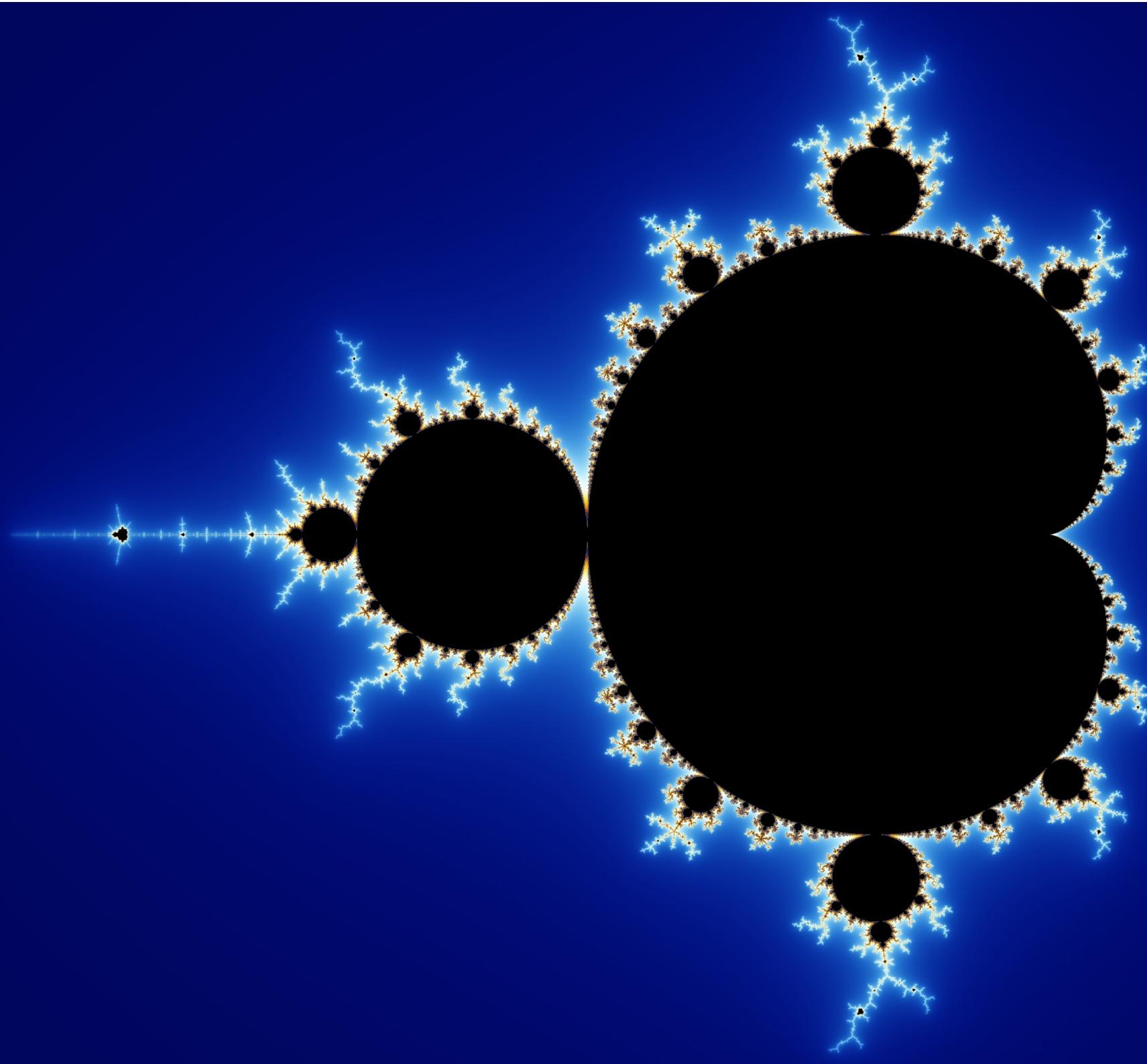
Gaston Julia
1893 - 1978





**Business
Partner**





2010: A Mandelbrot Odyssey

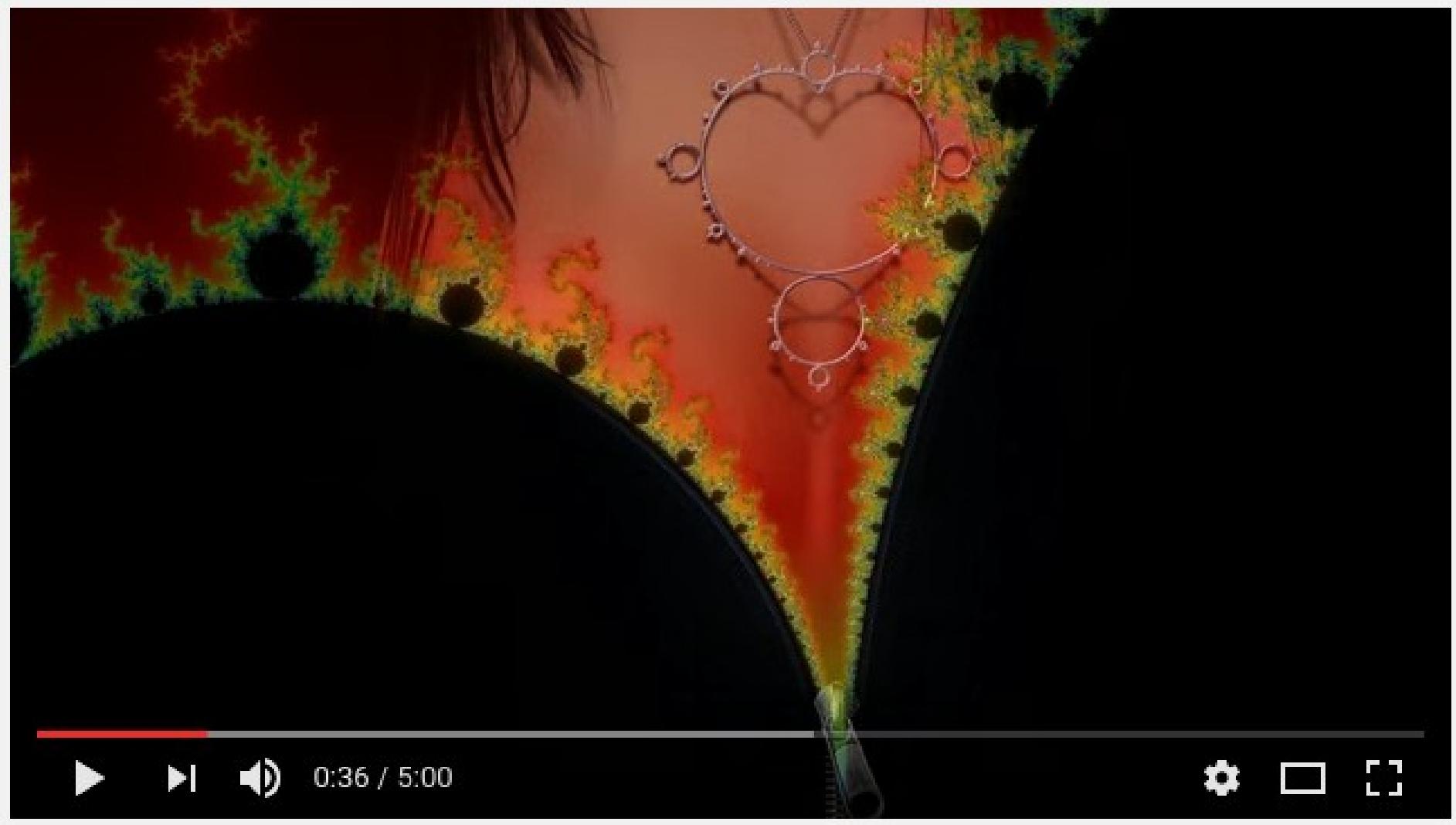
Michael Hogg

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A Journey in The Mandelbrot set



TED2010 - nastup legende

TED Watch Read Attend Participate About Search...

Benoit Mandelbrot:

Fractals and the art of roughness

TED2010 · 17:09 · Filmed Feb 2010
Subtitles available in 29 languages

[View interactive transcript](#)

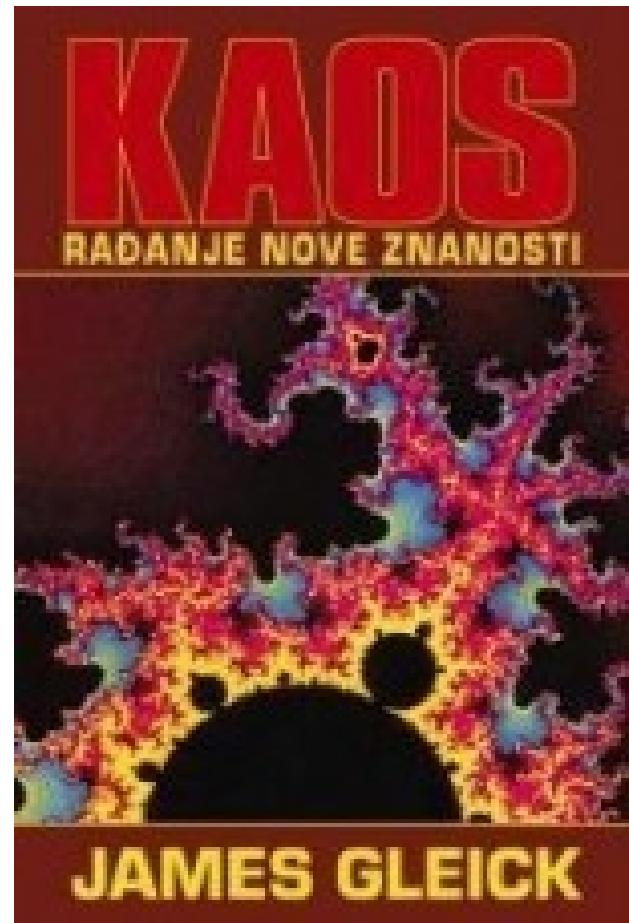


Share this idea      976,094 Total views  Share this talk and track your influence!

Knjiga

"Vječnost nije
dovoljna da ga se
cijelog pregleda."

James Gleick



<https://ggbm.at/kN6pNaau>

The screenshot shows the GeoGebra website interface. At the top, there is a navigation bar with links for 'Materijali', 'Preuzimanja', 'Blog', 'Pomoć', and 'Prijava se'. Below the navigation bar, there are three main sections: 'Materijali' (Materials) featuring a character holding a tablet with a geometric shape; 'Pokreni GeoGebru' (Run GeoGebra) featuring a tablet displaying a graph of a function $a=2$; and 'Preuzimanja' (Downloads) featuring icons for a smartphone, a computer monitor with a green arrow pointing down, and another smartphone. At the bottom, a large teal banner displays the text 'GEOGEBRA' in large white letters, followed by 'GRAFIČKI KALKULATOR ZA FUNKCIJE, GEOMETRIJU, ALGEBRU, ANALIZU, STATISTIKU I 3D GEOMETRIJU!' in white capital letters.

Hvala na pažnji!

