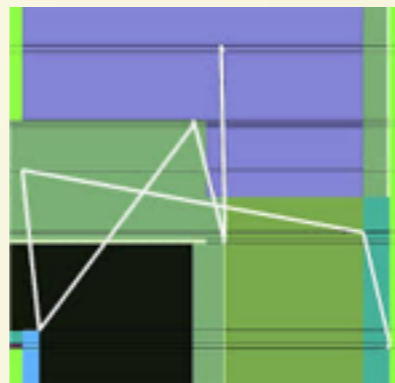# think the image :: generative art
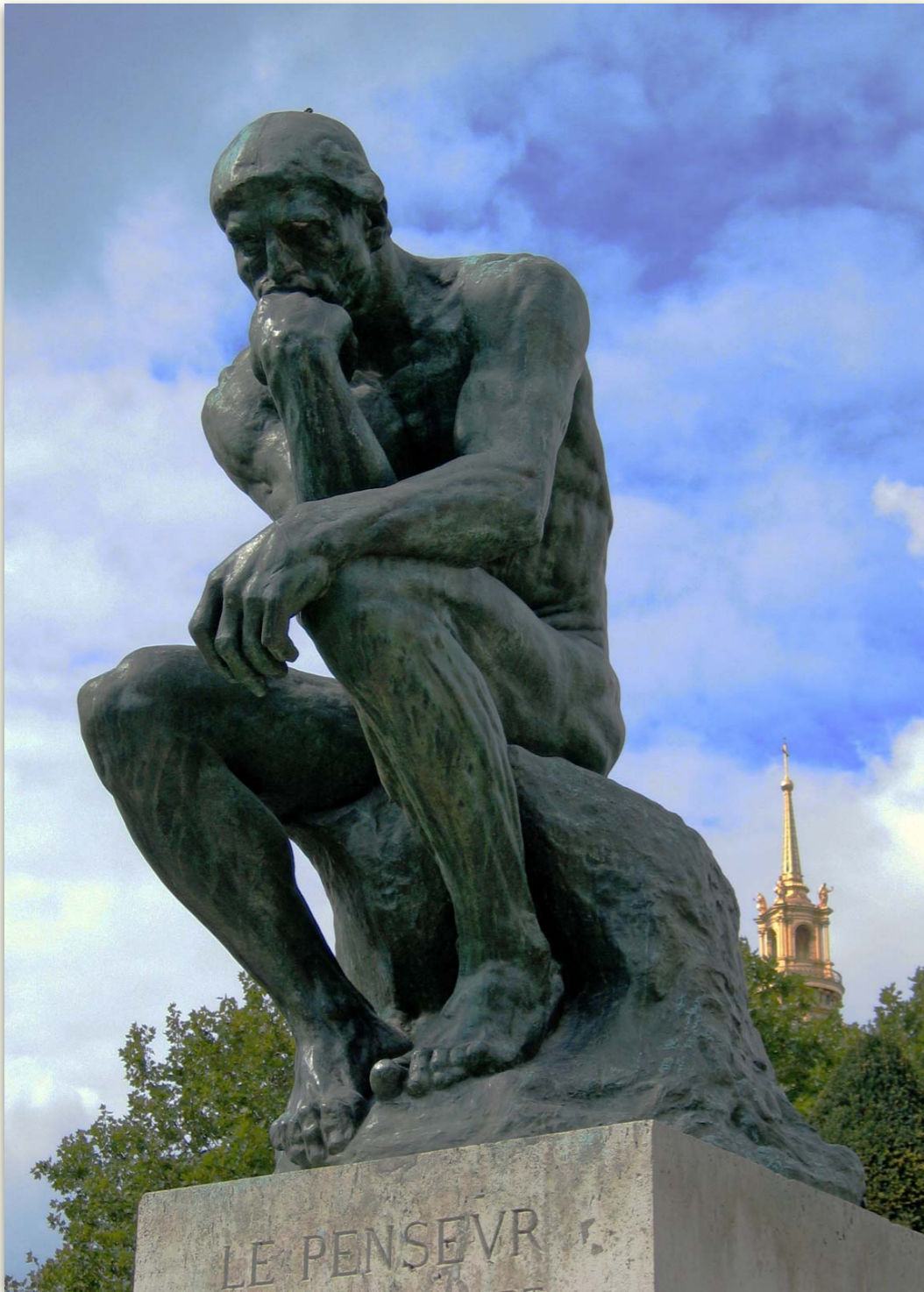
a summer workshop 2020
frieder nake

day 1

THINKING
   THINKING OF

Auguste Rodin 1904

Arnold Böcklin 1885/86

human's **MAKING THE IMAGE** has emigrated to **THINKING THE IMAGE,** for there is a *machine* now for **MAKING THE IMAGE**

the machine, however, needs a description of *what* to do by being told *how* to do it

therefore, human's **THINKING THE IMAGE** is **DESCRIBING MAKING THE IMAGE**
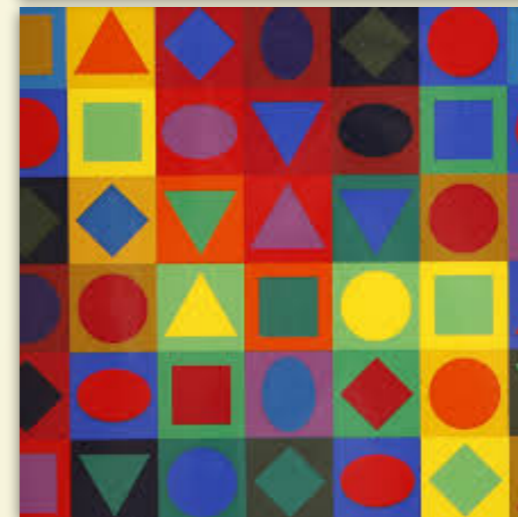
ALWAYS ALREADY INFINITIES!

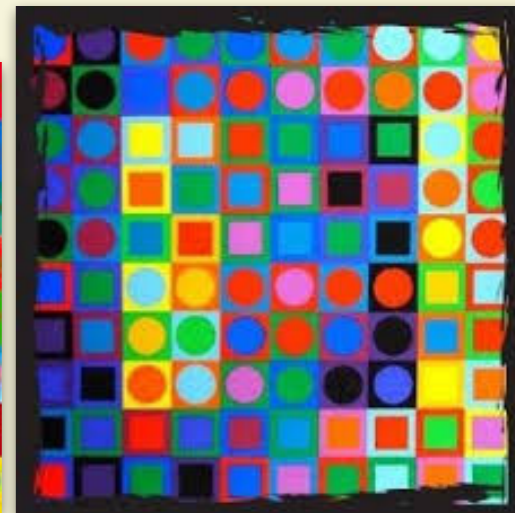**the lonely individual image**   **loses against the multitude
of the image class it belongs to**
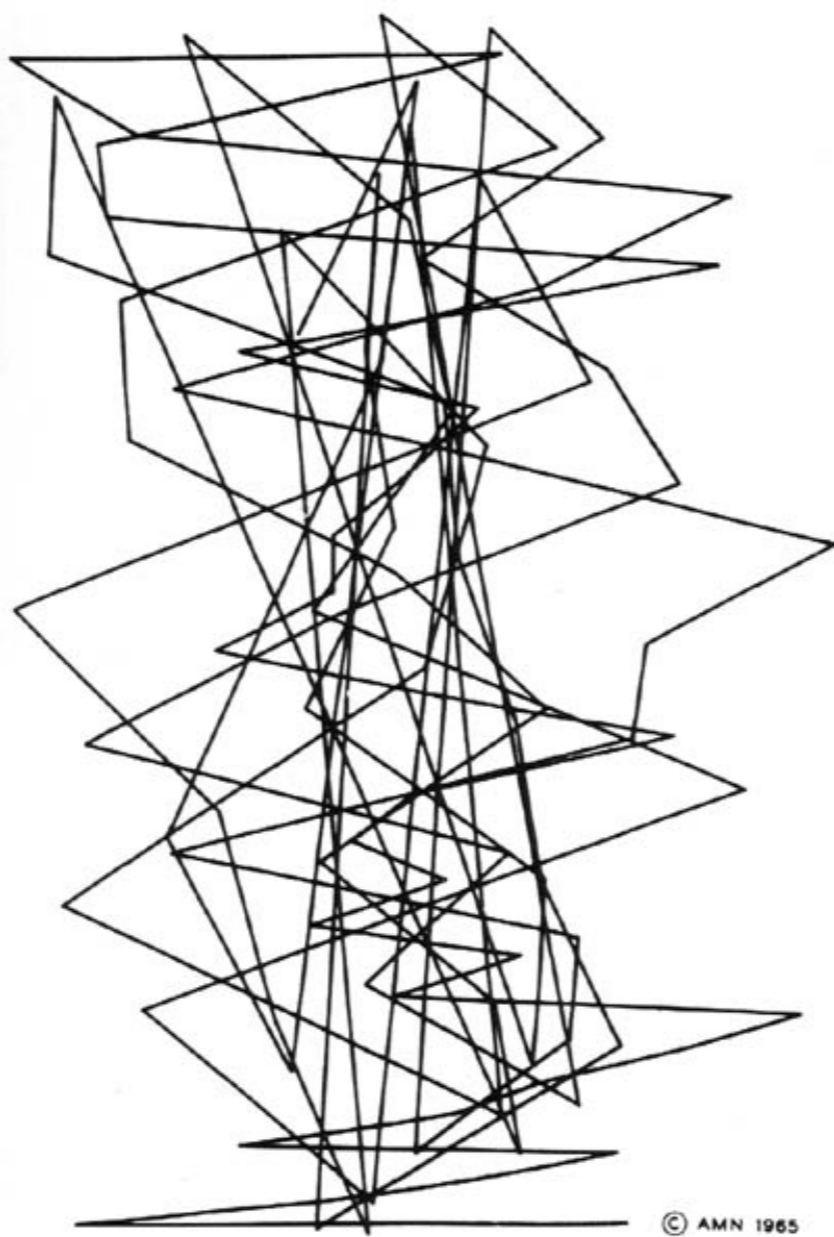

Michelangelo 1508-1512

Victor Vasarely ca. 1969

NO MASTERPIECES ANYMORE

RANDOM POLYGONS

A. Michael Noll 1965

© AMN 1965
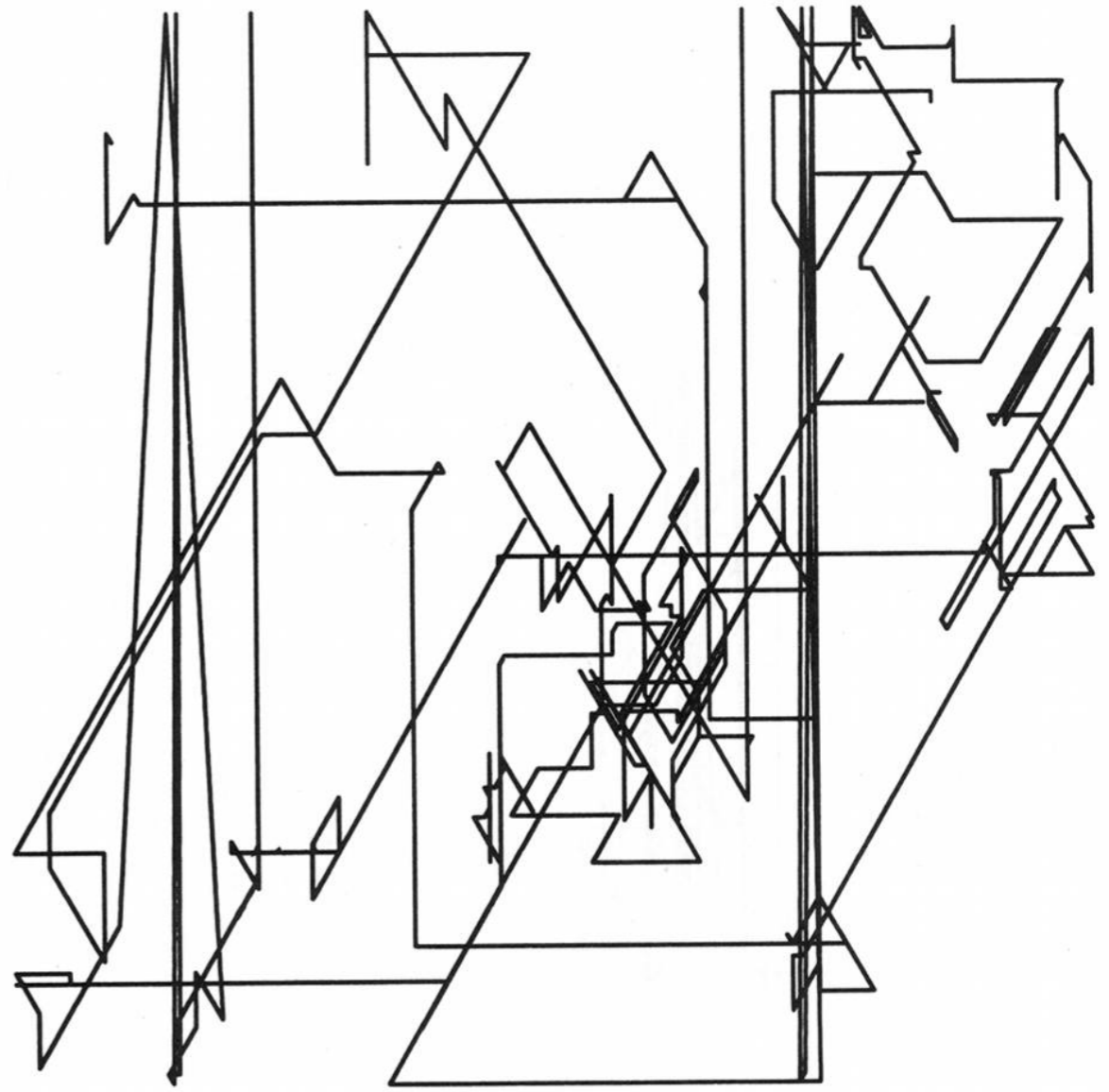
NAKE/ERSE/Z64
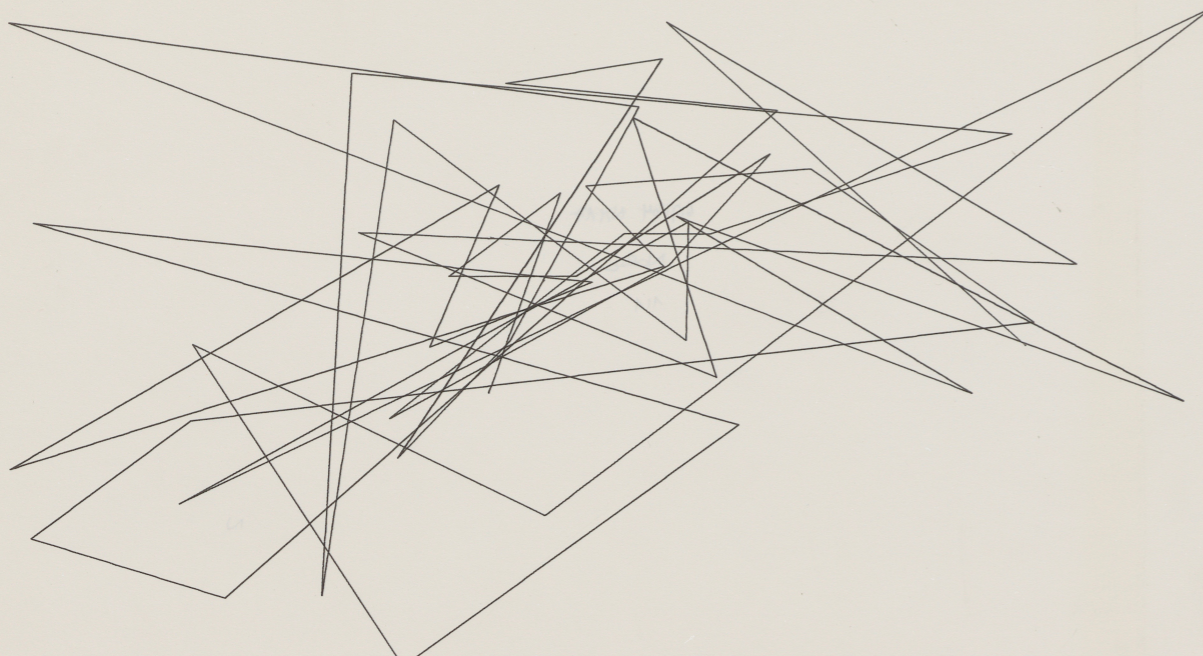
Frieder Nake 1964 / 1965
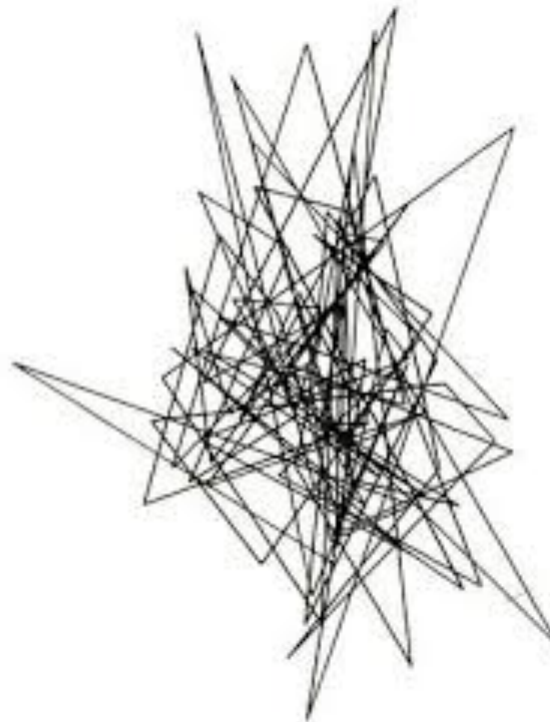
randomly choose a first point, $P_{old} = (x_{old}, y_{old})$
randomly choose a number of vertices, n

randomly choose a next point, $P_{new} = (x_{new}, y_{new})$
draw the straight line from P_{old} to P_{new}

Now organize the repetition:
a basic operation must be repeated for which action we need a "counter"
and we must organize the switch of roles: the last "new point" must become the "old point"

randomly choose a first point, $P_{old} = (x_{old}, y_{old})$
randomly choose a number of vertices, n

*set counter i = 0

*repeat
  randomly choose a next point, $P_{new} = (x_{new}, y_{new})$
  draw the straight line from P_{old} to P_{new}
 *$P_{old} := P_{new}$
 *i := i + 1
*until i = n

We must end the drawing by inserting the line from the last point to the first one – but we don't have its coordinates any more!
We correct this by introducing another variable as a sort of memory.

We also change the iteration into a new form ("while")
because we anticipate that Processing does not have the "repeat" form

randomly choose a first point, $P_{old} = (x_{old}, y_{old})$
*keep the point P_{old} as P_{start}
randomly choose a number of vertices, n

set counter i = 0

*while i < n do
    randomly choose a next point, $P_{new} = (x_{new}, y_{new})$
    draw the straight line from P_{old} to P_{new}
    $P_{old} := P_{new}$
    i := i + 1

*draw the straight line from P_{new} to P_{start}

```
/**************************************************************

  DRAW A RANDOM POLYGON
  WITH A RANDOM NUMBER OF VERTICES

  **************************************************************/

//Declaration of parameters_____

int w = 800, h = 800;           //size of canvas, width & height
int marg = 20;                  //margin around the canvass
int n;                          //number of vertices, n ≥ 2
int nlo = 4, nhi = 4;           //boundaries for choice of n
float xold, yold, xnew, ynew, xstart, ystart;
                                //old and new vertex, first vertex
int lWei = 1;                   //line-width of polygon
color lStr = color(0, 0, 0);    //line-color in RGB

//Preparation_____
void settings()
{
  size(w, h);
}

void setup()
{
  xold = random(marg, w-marg); yold = random(marg, h-marg);
  xstart = xold; ystart = yold;
  n = int(random(nlo, nhi));
  strokeWeight(lWei); stroke(lStr);  //set graphic parameters
  noLoop();
}

//Repetition_____
void draw()
{
  int i = 1;
  while(i < n)
  {
    //choose the next vertex
    xnew = random(marg, w-marg); ynew = random(marg, h-marg);
    line(xold, yold, xnew, ynew);      //draw next edge
    xold = xnew; yold = ynew;
    i = i+1;
  }
  line(xnew, ynew, xstart, ystart);    //draw the last edge
}
```

A portrait created by AI just sold for $432,000.
But is it really art?
Jonathan Jones

The Guardian 26 Oct. 2018
An image of Edmond de Belamy, created by a computer, has just been sold at Christie's.
But no algorithm can capture our complex human consciousness.

From a distance, Portrait of Edmond de Belamy, which has just sold at Christie's in New York for $432,000 (GBP 337,000), looks almost plausible. Up close, however, the paintwork becomes a grid of mechanical-looking dots, the man's face a golden blur with black holes for eyes. Look into those eyes. They show no sign of feeling or life. Did a computer make this?

The answer is yes. The first artwork generated by AI to be sold at Christie's, its impressive price would seem to suggest that in future we will get computers to make art for us. Robot van Gogh will harmlessly cut its ear off and robot Picasso will be a genius, minus the misogyny.

Is this the future, AI art visionaries, such as the French collective Obvious, which programmed this "painter" by getting it to compare its own work with 15,000 pre-20th century portraits, have in mind? Or are they just, God forbid, making a fast buck from gullible art collectors? Because believing the algorithm that knocked this up to be in any meaningful way an "artist" is like thinking your voice-interaction programme is out to get you. Dream on. Computers would need to replicate human consciousness before they could replicate the funny thing humans do called "art".

Art is a way in which human consciousness expresses itself, and is equally true of the earliest cave art, Rembrandt's portraits and Duchamp's urinal. And that is what is missing from Portrait of Edmond Belamy. Art is a way, humans communicate ideas, perceptions and feelings to each other. It has no existence outside the human passion to communicate. So, in what meaningful sense can an AI replica of certain physical traits of old master paintings be called art?

For a robot to really make art, it would need an autonomous mind that was emotional as well as rational. No AI developer has yet claimed to be anywhere near achieving that and if they ever do, their creation will probably have better things to do than paint portraits – like destroy humanity. Maybe afterwards robots will invent their own kind of art, but it won't be some poor pastiche of human genius. It will be beyond anything we organics could imagine.