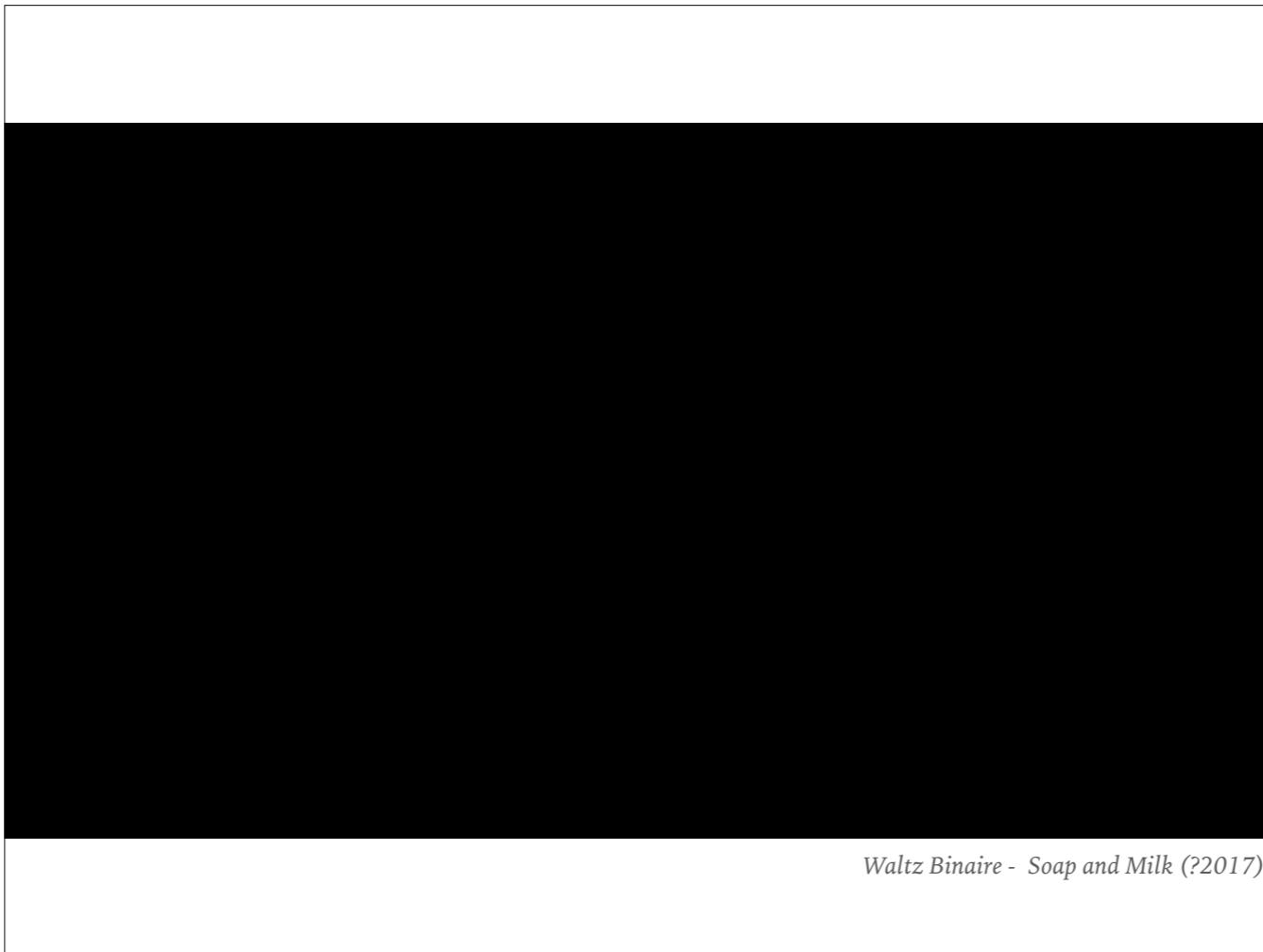


CREATIVE CODING

And data visualization



What we see here is an interactive installation made by a studio called Waltz Binair. It somehow uses data from social media posts to generate this blob thing that you see here. The user is able to interact with the installation, but only to sort of stir the fluidity of the piece. This is creative coding used for data visualization. I feel like you can easily criticize this piece for being a gimmick - but if the purpose is creating a mood, then I think it works very well. There is obviously a very long way from this installation to a Google spreadsheet - even a fancy one. But both the spreadsheet and this installation of course has its use case.

So this sort of captures my idea of the difference between “normal” data visualization and creative data visualization. Where one is a craft, the other is an artistic discipline and should be experienced as such.

I am going to show you a few more examples of artistic data visualization, but first I want to talk about creative coding, what is my angle on it, where does it come from, and where it is heading.

HI, MY NAME IS...

- Carsten Høyer
- Organizer at Creative Coding Copenhagen
- Developer
- Creative Coding is my side project
- I have a background in computer science, communications and fine art.

Hi, my name is Carsten. I think in this context, probably the most interesting thing about me is that I am the organizer of another Meetup group called Creative Coding Copenhagen. That group is part of a larger community of like-minded groups, that seems to be spread all over the world (mostly in europe). We are currently hosting code jams, which is open code nights and networking for people interested in creative coding. We have a meetup next thursday at KADK :)

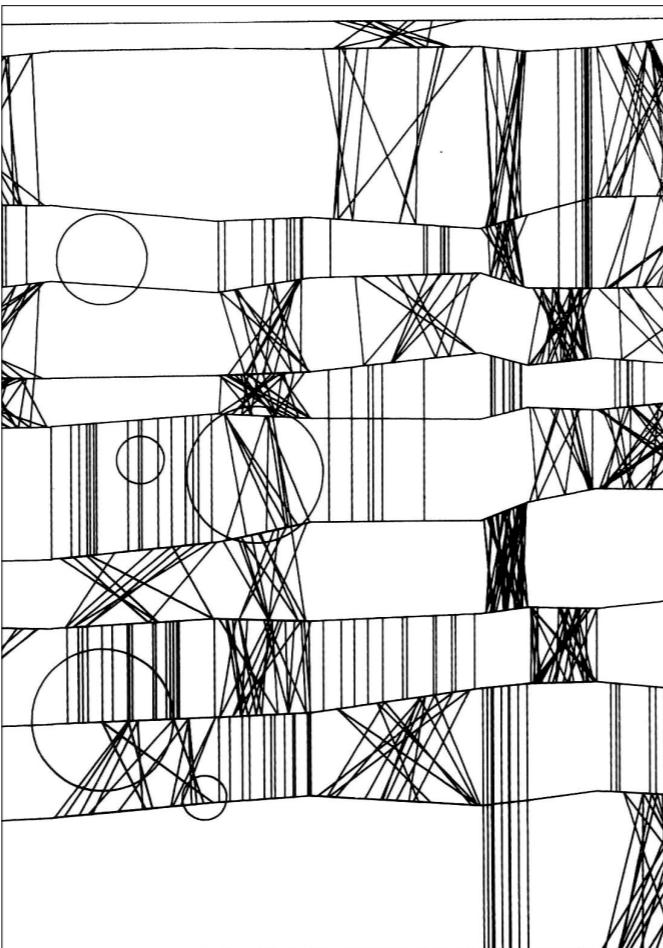


János Nemos - (2017) <https://www.youtube.com/watch?v=akxKqdWlVnE>

Here is a plotter drawing a horse - it's not mine, just one I found on youtube. I am not sure how long it's going to take, but it will probably be at least an hour to print this horse.

I am very interested in Plotters. As you could see it is basically very inefficient printers, that will let you make line drawings within a cartesian space. So my angle into creative coding is probably a bit different from most people, since I have been very interested in very simple things - things, like line drawings, that could be created with a plotter.

This is great, because it kind of took me back to the beginning of creative coding, which is back in the fifties and sixties. At that time there wasn't any monitors. Or printers. But there were early plotters (I think the first one is from 1957). So the way you would output anything visual from the computer was via a plotter, and of course creative people would experiment with this.

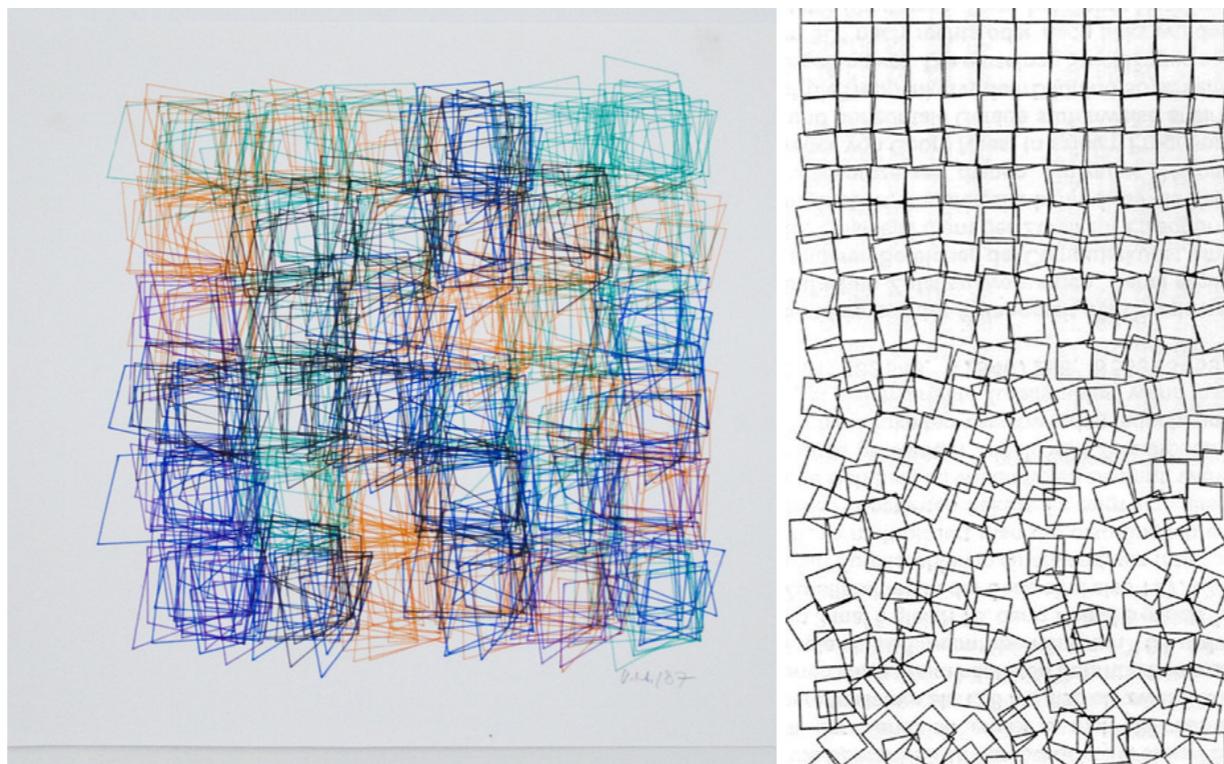


PLOTTERS

- Really inefficient hipster printers

Frieder Nake - Homage à Paul Klee (1965)

Here is an example by Frieder Nake from 1965



Vera Molnar - *Structure de Quadrilatères*
(Square Structures) (1987)

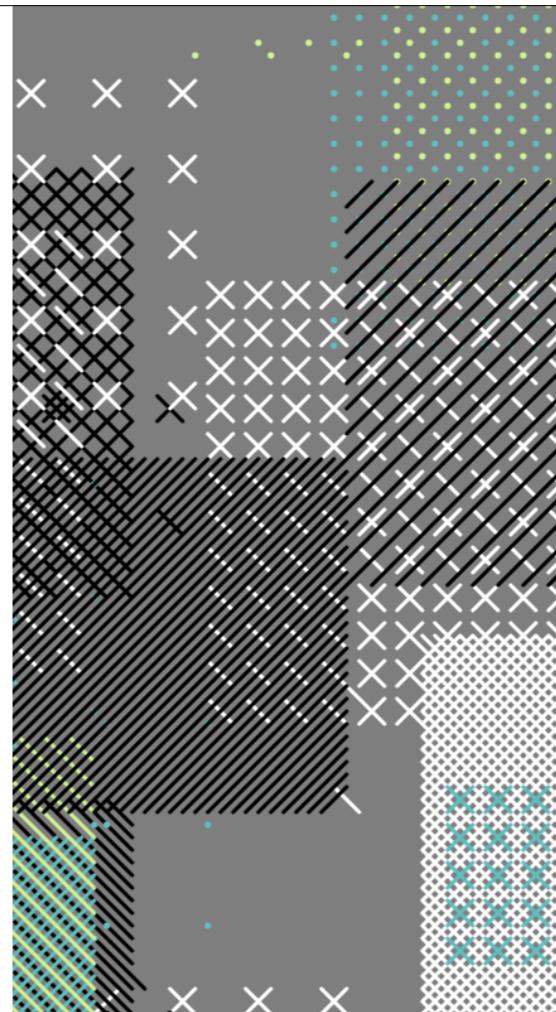
Georg Ness - *Schotter* (~1968)

and here are some others from Georg Ness and Vera Molnar. The piece by Vera Molnar on the left is from 1987, but she was also one of the very early pioneers. Both these pieces display the kind of simplistic ideas that was used in the early pieces (and could easily be used today). This example from Georg Ness show a really simple algorithm, where each line becomes more and more random. It's extremely simple, and very nice in my mind.

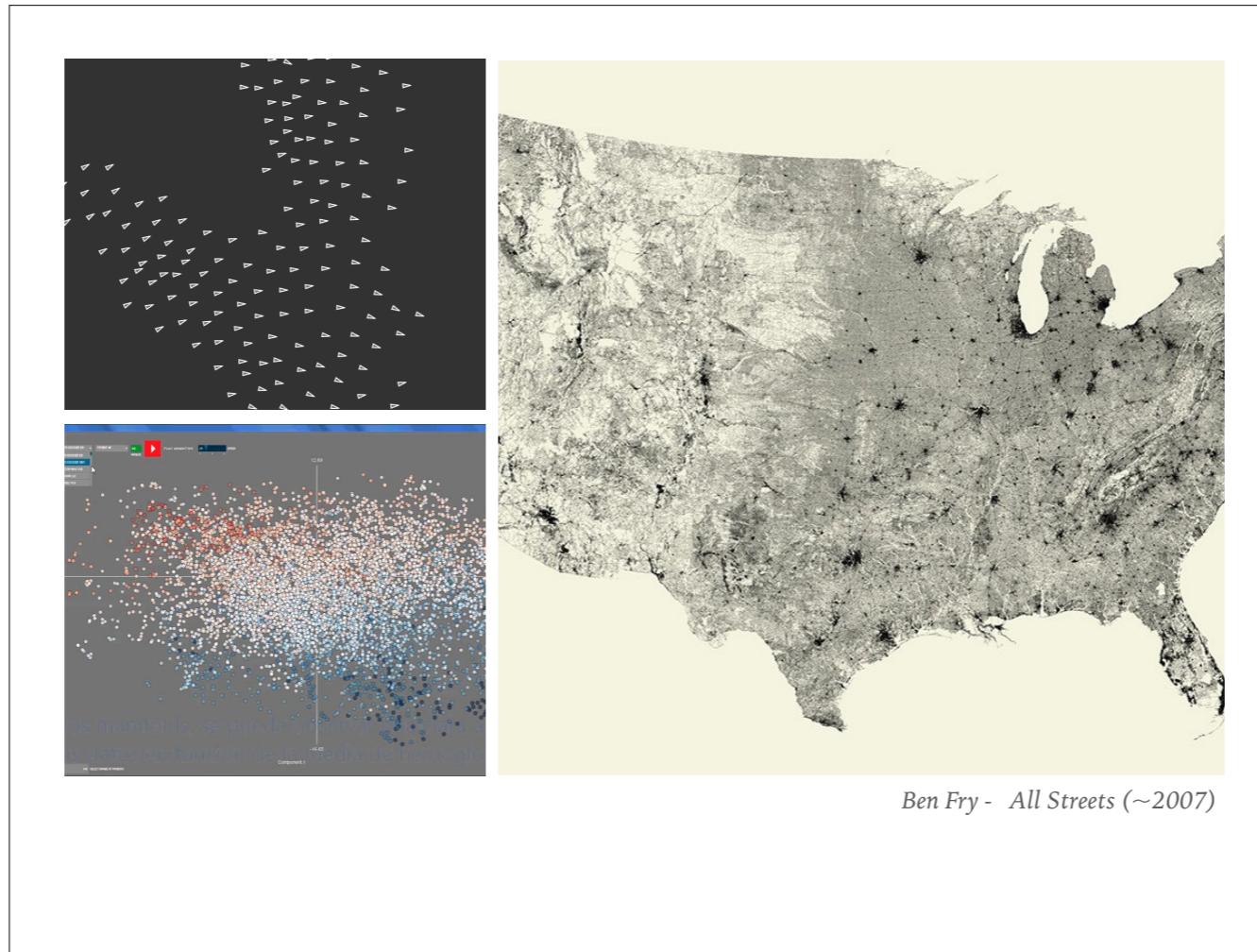
PROCESSING

openFrameworks, P5js, etc.

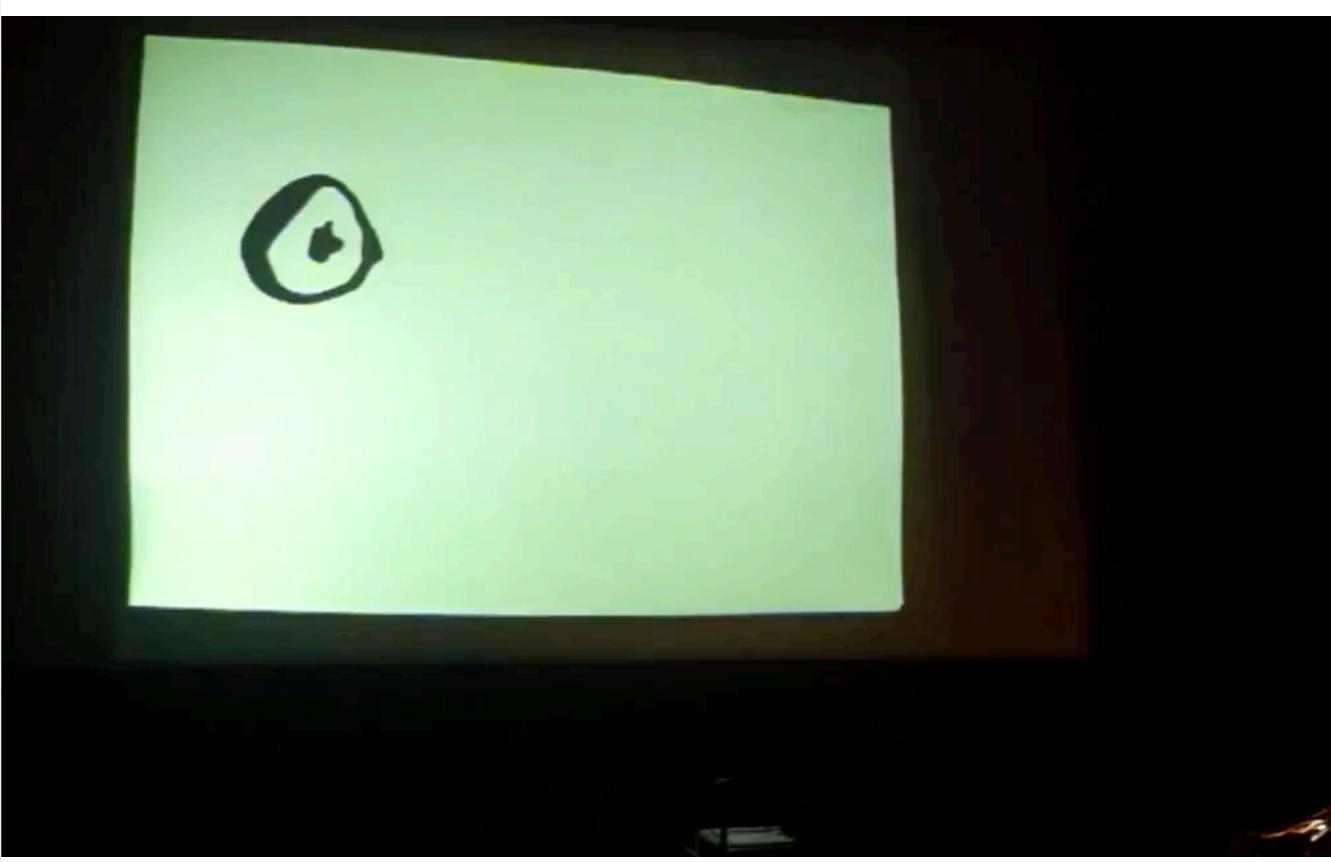
Saskia Freeke - Geometric Shapes / 190425 (2018)



So in the eighties and nineties different schools started having design labs centered around computation. Specifically MIT Media Lab was pioneering this field. Around 2000 some of the students at one of these design schools, felt that they were being limited by Photoshop and the other available tools, so they created an open source library called Processing, that was (at that time) specifically meant to be a tool that could make it easier to do custom data visualization. Soon after other alternatives came around - like openFrameworks. Processing lets you do flocking simulations and create as complex visualizations as you can really dream about.

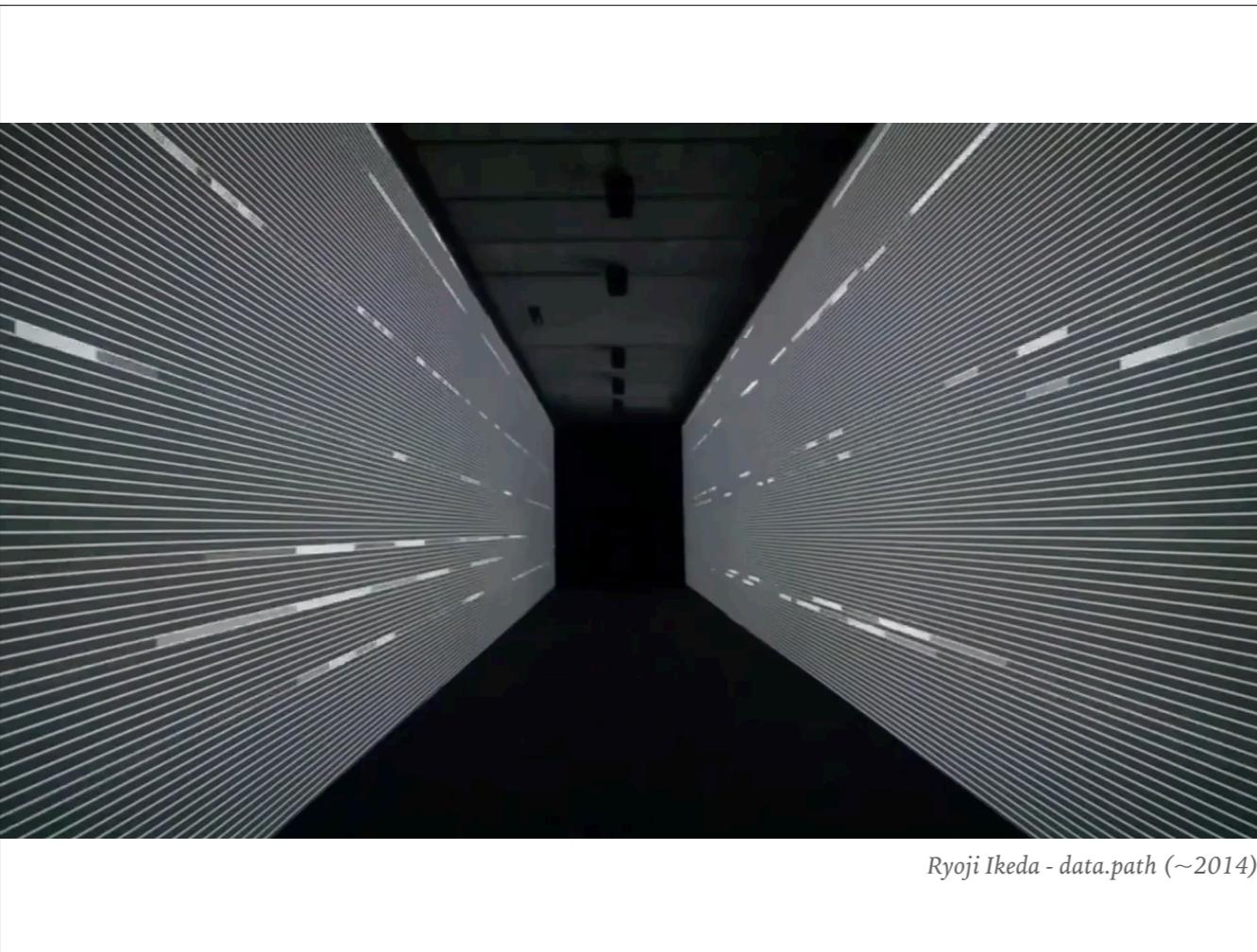


The main author of processing was Ben Fry, who wanted to use it for data visualization. He is mostly using it for some quite complex genome visualizations, but he has also made more atristic stuff - like this piece for example, where he has taken every road in North America and printed to a poster. It's a nice piece, that tells a lot about the infrastructure and geography of USA just from some very simple data.



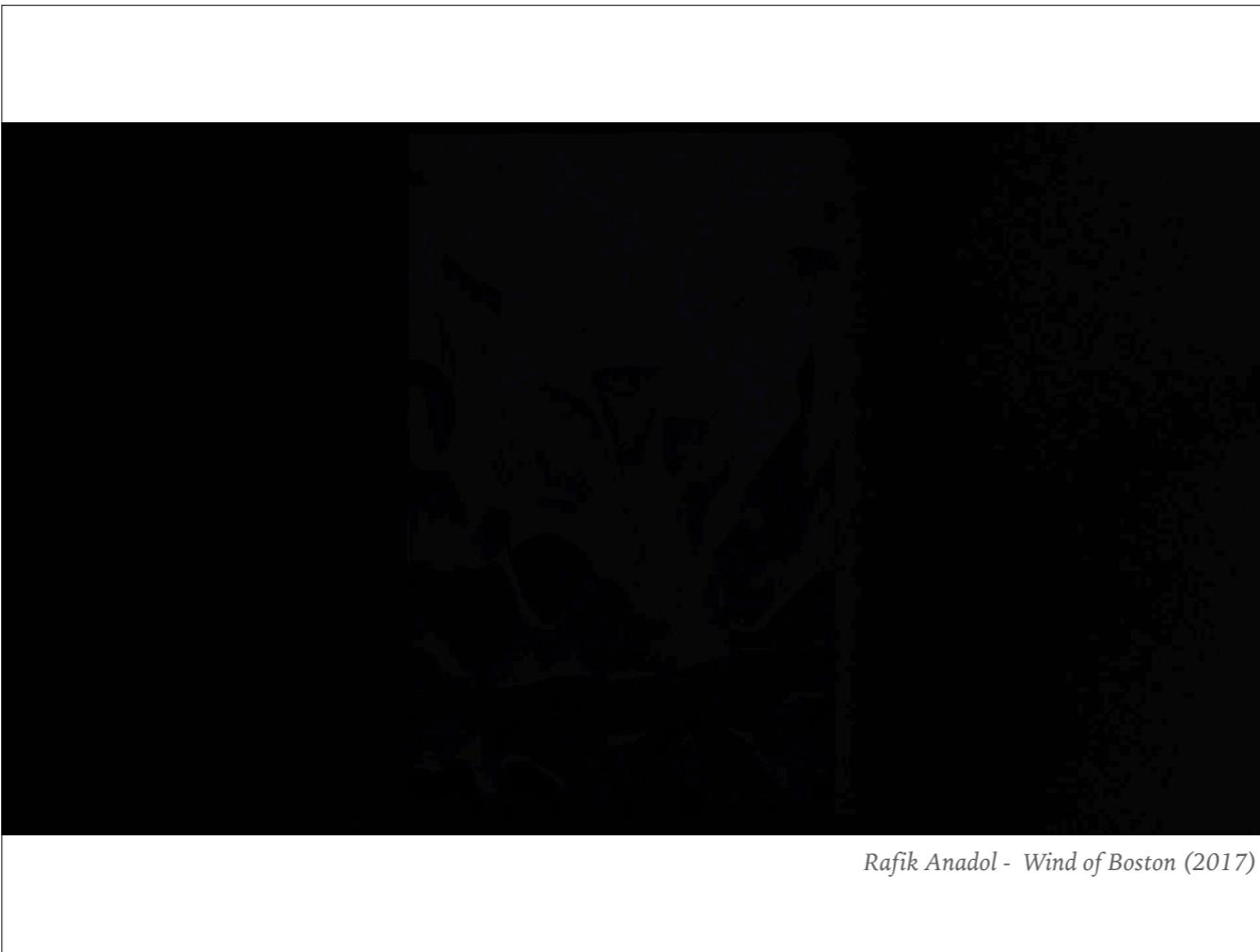
Zach Lieberman - Drawn (2012)

Of course with a powerful tool like Processing, people are going to use it for all kinds of things, and pretty fast it became the go to tool (together with openFrameworks) for creative coders. Here is another example of creative coding made by Zach Lieberman (an american artist and teacher). As you can see, there is not much data visualization in this piece, but on the other hand it is highly explorative and it also shows another important aspect of modern creative coding, the use of many interfaces (in this case he uses a camera to catch both his hands moving the drawings, and photographing the drawings). Its just a great piece.



Ryoji Ikeda - *data.path* (~2014)

So finally we are back to data visualization. In this piece the Japanese artist Ryoji Ikeda uses the data (apparently) from broken harddrives to create some kind of immersive (and quite unpleasant) sound installation - which kind of reminds me of a space odyssey or something. He generally makes these very large scale installations where data is used to create a feeling - which I guess is not a very nice feeling.



Another example is this piece made by Rafik Anadol who is a professor in new media arts. In this piece he somehow creates abstract “sculptures” out of weather data from around Boston.

Both these pieces could somehow be critized for being too abstract - and not really caring to communicate their data in an understandable way. On the other hand, they do manage to create some kind of feeling, which can be very powerful.

I think there are many use cases for creative data visualization in companies around Denmark, where you could put the business data into a story like this - I suppose in most cases you wouldn't go this dark. But maybe you could imagine a bank using their transaction history to show live how much was going on at this moment in time. There are many stories that could be told much clearer using a more abstract language.



That's all Folks!