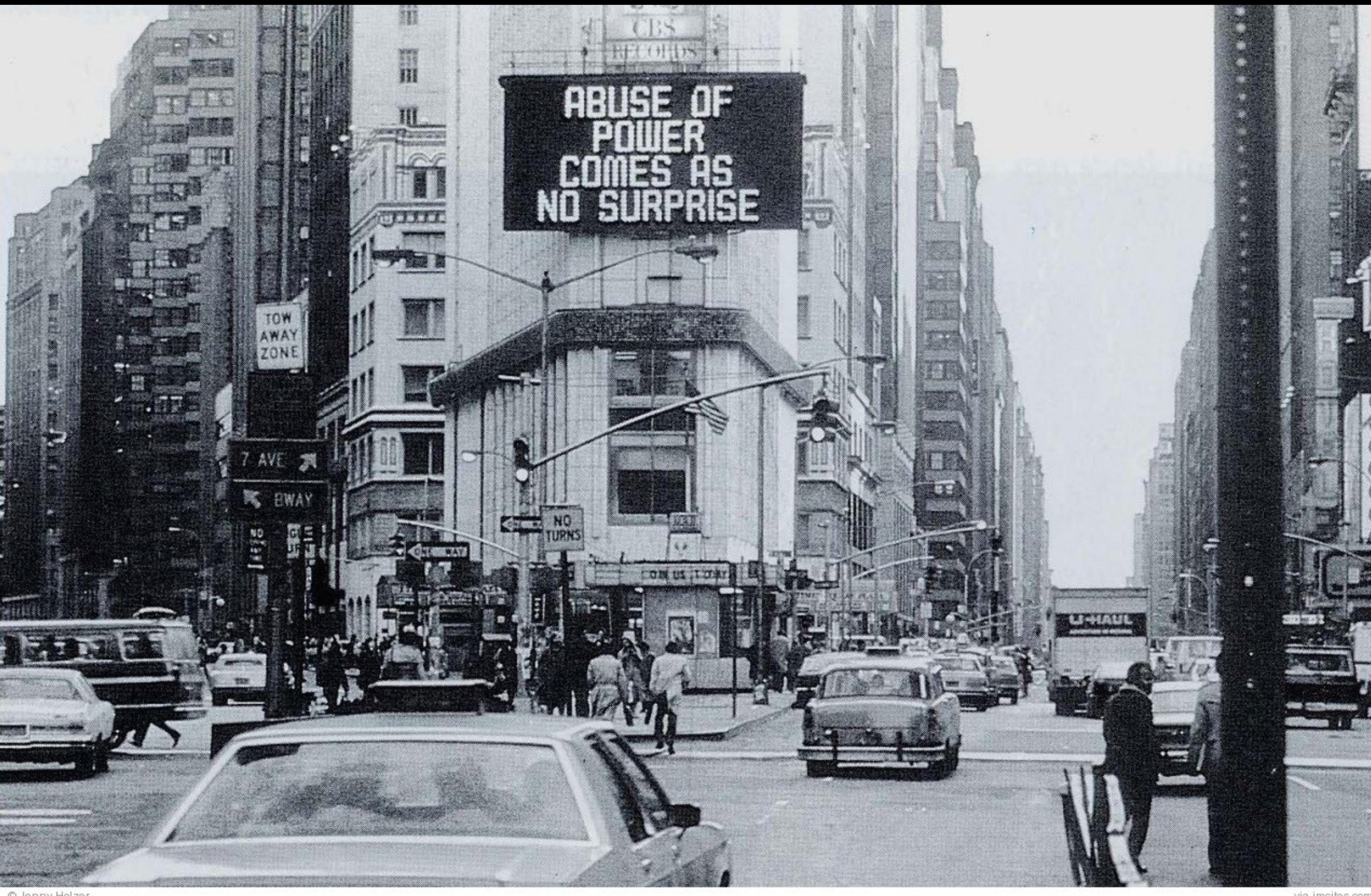


ABUSE OF AN ALGORITHM COMES AS NO SURPRISE

Pseudo-random thoughts about algorithms as creative materials and instruments of power.

- » Color and geometry gone wild (in ~1000 slides)
- » Inconvenient truths about technology and bias
- » “Creative code” - the practice and the cliché

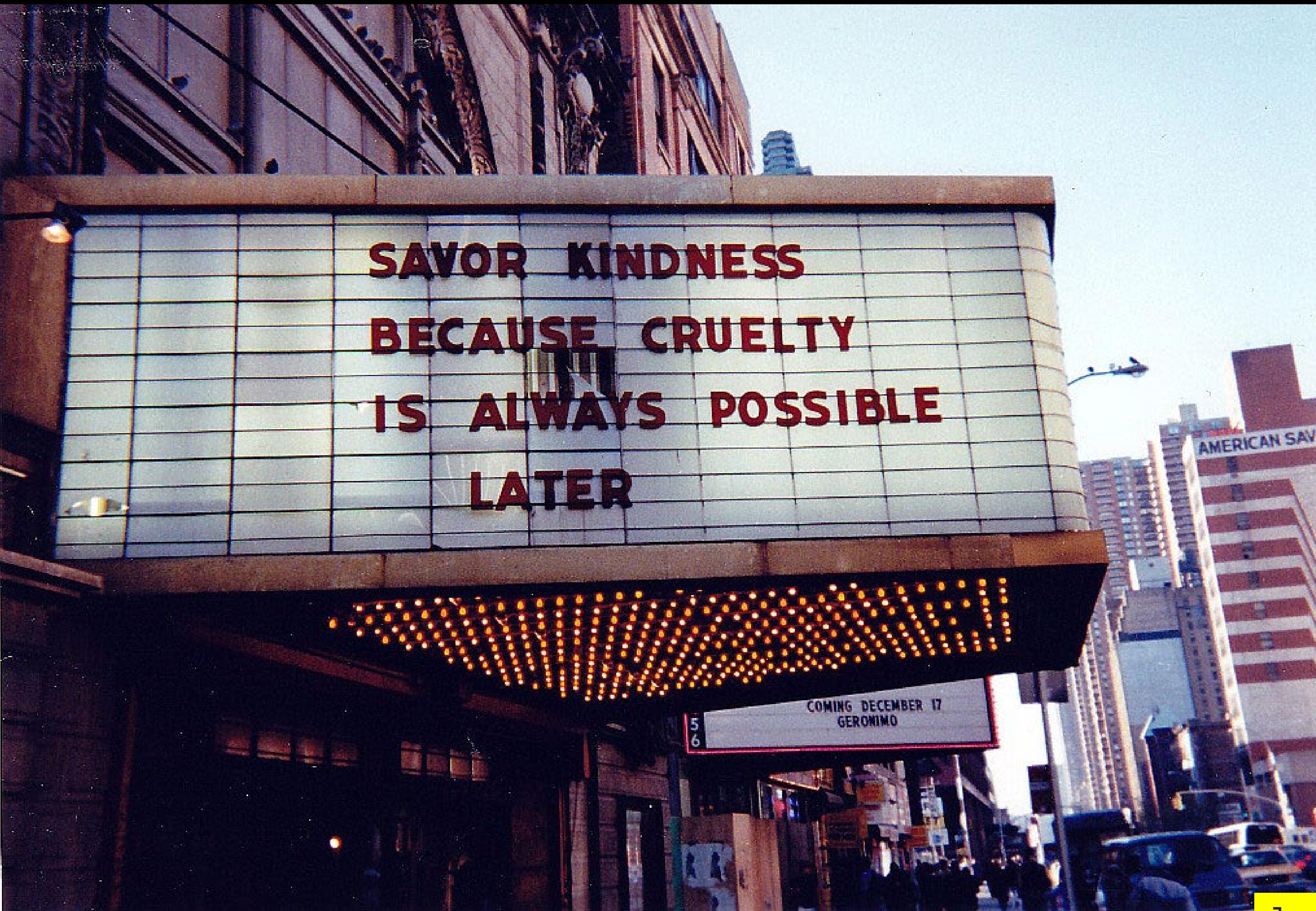
Note: Slightly altered from version presented at PWL conference.



© Jenny Holzer

via imcites.com

Jenny Holzer: Truisms (1982)



Jenny Holzer: Truisms

IF YOU AREN'T POLITICAL
YOUR PERSONAL LIFE
SHOULD BE EXEMPLARY

HI, I'M MARIUS AND I'M AN ARTIST

But I never went to art school.

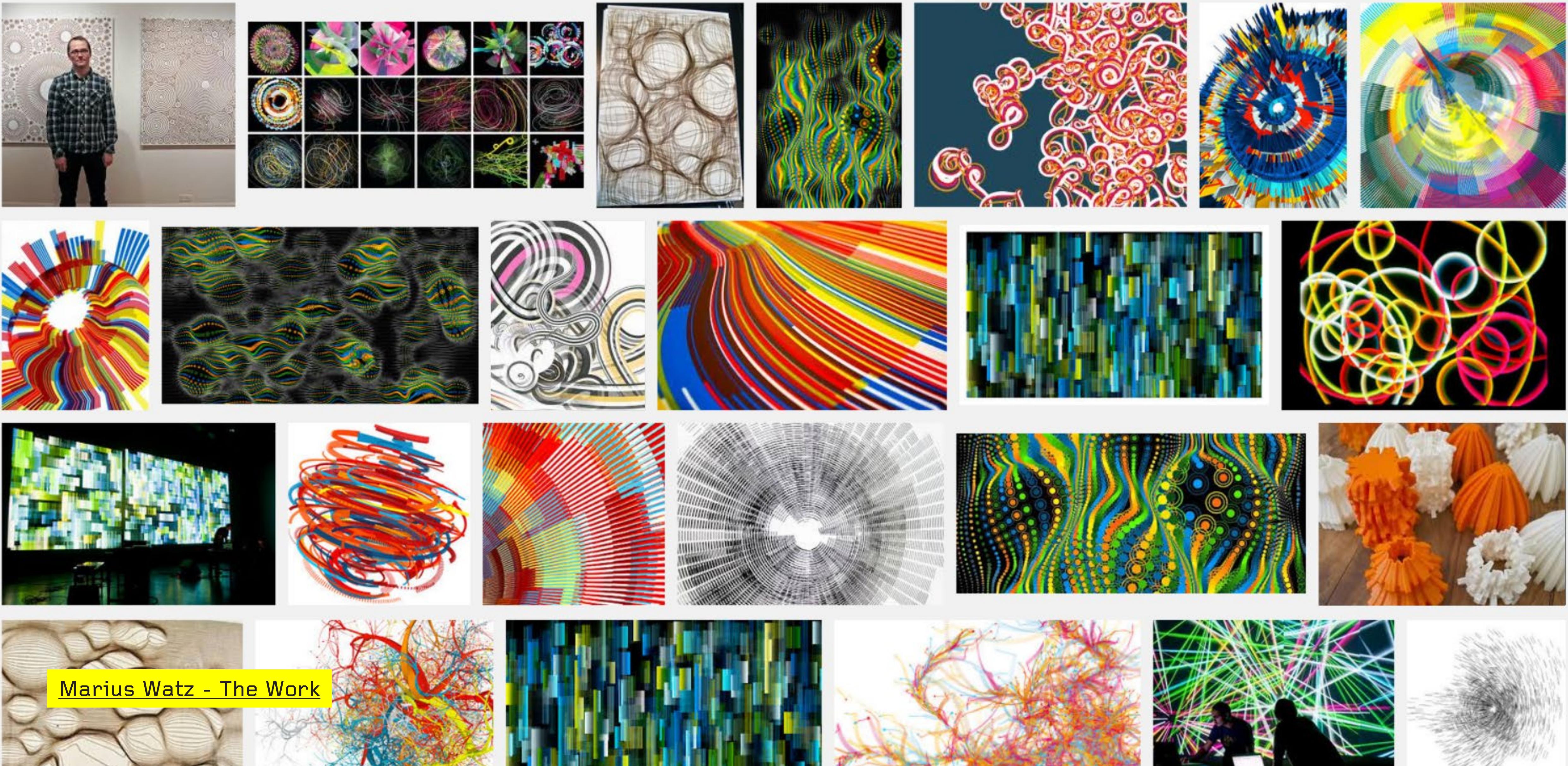
I started coding on a TRS-80 Color Computer at age 11, then later dropped out of Computer Science without a degree (too damn boring.)

Wanting to explore the application of computational logic to graphic design in 1994 meant being self-taught. Fortunately, the Dot Com boom soon made being a coder with graphic skills potentially lucrative.

Today I am an artist, freelance creative technologist and educator, working with code and data as materials.



Getting Started With Color Basic

[Web](#) [Images](#) [Videos](#) [News](#) [Shopping](#) [More](#) [Search tools](#) [Safe Search](#) 



SHOCK & AWE

The “short, sharp shock” way to see all my work in 4 minutes and 23 seconds.

900+ slides

Recent and not-so-recent work (1994 to present)

Unseen work (sketches and unpublished)

Credit goes to Golan Levin for the original suggestion that I do an interactive talk based on slides of all my work. Sadly, I'm less interactively minded.

**AND NOW FOR SOMETHING LESS
PLEASANT.**

BEFORE WE BEGIN: CONCLUSIONS

Some of the ideas that follow may appear controversial. They shouldn't be.

My basic argument is simple: Technology, whether it's a machine learning algorithm or an infrared sensor, is never neutral, nor is it created in a (cultural) vacuum.

The perfect world of algorithms is an illusion, instantly broken whenever technology intersects with human behavior.

Coders are people, too, remember?

BEFORE WE BEGIN: CONCLUSIONS

My goal in the following is not political correctness, but to extend basic ethics and human decency to issues of technology.

From IBM's Watson to social media and machine learning, the biggest trends in tech are deeply linked to understanding and facilitating human experiences.

Even the most unassuming software developer can have the power to affect society. If Uber can "disrupt" labor politics and Airbnb can undermine urban planning policy, why shouldn't apps and APIs be able to reinforce positive change?

PERSONAL DISCLAIMER

As a Caucasian male born and educated in a country (Norway) that offers universal healthcare and free education (even at college level), I am the benefactor of multiple layers of privilege.

I do not presume to be able to speak to the lived reality of some of the issues I will discuss, but I hope address that pitfalls developers face in creating tools and participating a critical discourse around technology.

The screenshot shows a digital workspace interface with several panels:

- Left Sidebar:** A vertical sidebar with icons for a pen, a clock, a person, a share symbol, a tag, and a ghost.
- Top Bar:** Includes tabs for "Unified Inbox", "All", "By Time", and "eyeo".
- Inbox Panel:** Shows a list of 14 messages. Key messages include:
 - Casey REAS: Re: Q: Processing foundation income / prizes (10/06/2014)
 - d schroeder: Re: Monday night - ignore that- that was a test (08/06/2014)
 - d schroeder: Monday night (08/06/2014)
 - d schroeder: Eyeo Speakers! - WHEN YOU LAND DETAILS and so much more (04/06/2014)
 - d schroeder: Re: Eyeo Festival - talk titles & fireballs (02/06/2014)
 - Michael Chang: Re: Eyeo Festival - talk titles & fireballs (02/06/2014)
 - Mark Sawula: Re: Workshops, NYC May 31/June 1: Quantified self / Generative Art (27/05/2014)
 - Mark Sawula: Re: Workshops, NYC May 31/June 1: Quantified self / Generative Art (27/05/2014)
- Calendar Panel:** Shows a weekly calendar with days labeled M, T, W, Th, F, S, U.
- Right Panel:** A detailed view of the email from d schroeder titled "Eyeo Presentations: How We Roll".
 - From:** d schroeder (17/05/2014 10:37)
 - Relevance:** Extremely Relevant
 - Message Content:**

Hi Speakers,

As you prepare your talks and slides we wanted to send you a few notes to keep in mind. (sorry this is long, but it's important stuff.)

1.) Expectations about appropriate content. We want Eyeo to be an inclusive, supporting and encouraging event for everyone regardless of gender, gender identity, race, or sexual orientation. We have a non-harassment policy. We feel strongly about this. We're proud of it. To that end, we expect the talks we(you) present on our stage will not include any obscene or demeaning ideas or imagery. I should add that we don't anticipate this from any of you in the first place, but are obliged to mention this expectation. Most often, when inappropriate content does appear in a talk, its roots are not mean spirited, but rather a poorly calculated attempt at humor. (At least in our experience). This doesn't mean your talk has to be rated PG. If certain imagery is relevant to the point, or project, that's being discussed it's usually fine to include it; just please keep in mind that we don't want to make anyone feel uncomfortable or belittled. We are all adults at an event in a contemporary art museum, nudity is not taboo if it's justified/relevant. And as far language goes swearing is acceptable, but derogatory language is not. If you have any concerns about something and aren't sure about including or not, you're more than welcome to run it by us for feedback. Again, from what we know of all of you we don't anticipate this being a problem, but we'd rather mention this now and avoid an unfortunate situation during or after the festival.

2.) The talks we love. The speaker line up this year is amazing. All of you have one thing in common (maybe 2); incredible work & ideas, and you're wicked smart. And the third thing that we suspect will be made apparent during the festival is that you're all also very generous when it comes to sharing your thoughts and ideas. The talks at Eyeo are 45 minutes long. Of course we want you to talk about your work. We also love it if you take time to dive deep into some of the process & experiences of a specific project or two. And what we really love, and the crowd really appreciates, is when you talk about what you're most passionate about and interested in at this time. The crowd will be full of people doing, or interested in doing, work in the same realm as you do, and/or they will be familiar with many of the same tools that you employ. Put another way - you will be among your people, your tribe as they say. (A saying I kinda don't like). The point is - you don't have to dumb anything down. Go deep, go wide, go narrow, share what you've learned and what you're excited about and you'll rock it.

3.) The talks we aren't crazy about. The only talk that doesn't float our boat is the straight artist's "portfolio history talk" where the speaker just goes from one project to the next for 45 minutes and never goes fires, and other more personal/reflective aspects of their work. A tell tale sign of this talk is usually where the artist shows a picture of their dog or cat at their studio to spice things up...we've all seen at least one of these talks. The work is great, but you don't get any more from the talk

WE ARE ALL AWESOME. SO WHY DOES THE WORD “BROGRAMMER” EVEN EXIST?

- » The tech, design and startup worlds are full of smart people. Geniuses, even.
- » Sadly, this does not preclude the persistence of discrimination based on gender identity, race or sexual preference.
- » Diversity is an agreed-upon universal goal, but simply agreeing does not make it so.

PS. I am not implying that the present audience is racist or sexist.
I'm just saying stupid shit does go on.

Geek Feminism Wiki

[On the Wiki](#)[Geek Feminism highlights](#)[New to feminism?](#)[Contribute](#) [Share](#)[Wiki Activity](#)[Random page](#)[Videos](#)[Photos](#)

Timeline of incidents

[Edit](#)[Talk](#)962 PAGES ON
THIS WIKI Search this wiki

This is a timeline of sexist incidents in geek communities including:

- Technology industry
- Free and open source software
- Gaming
- Comic Book Fandom
- Science Fiction Fandom
- ... and more

See [Timeline of geek feminism](#) for the development of geek feminism itself.

(Mary Gardiner explains the reason for this list in [Why we document](#) on the Geek Feminism blog.)

[Contents \[show\]](#)**1973** [Edit](#)

- Lena Söderberg's photograph is first used in image processing experiments.

1982 [Edit](#)

- *Custer's Revenge* (rape simulation game) released

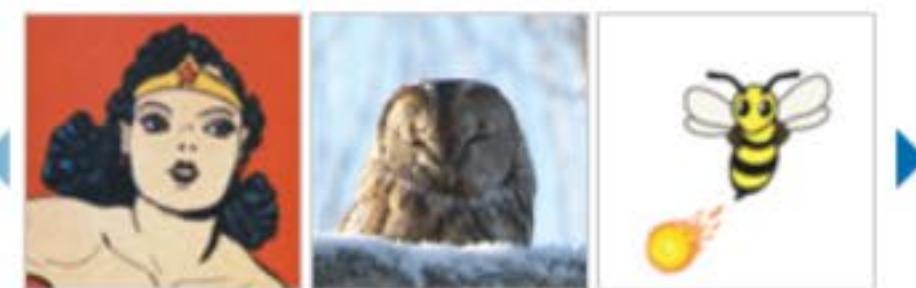
1988 [Edit](#)

- comp.women proposal

1989 [Edit](#)

- École Polytechnique massacre

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[Model View Culture](#)
edited by Thayvian 1 hour ago

[Timeline of incidents](#)
edited by Valerietai 14 hours ago

[Conference anti-harassment/Adoption](#)
edited by Joe Cursio 16 hours ago

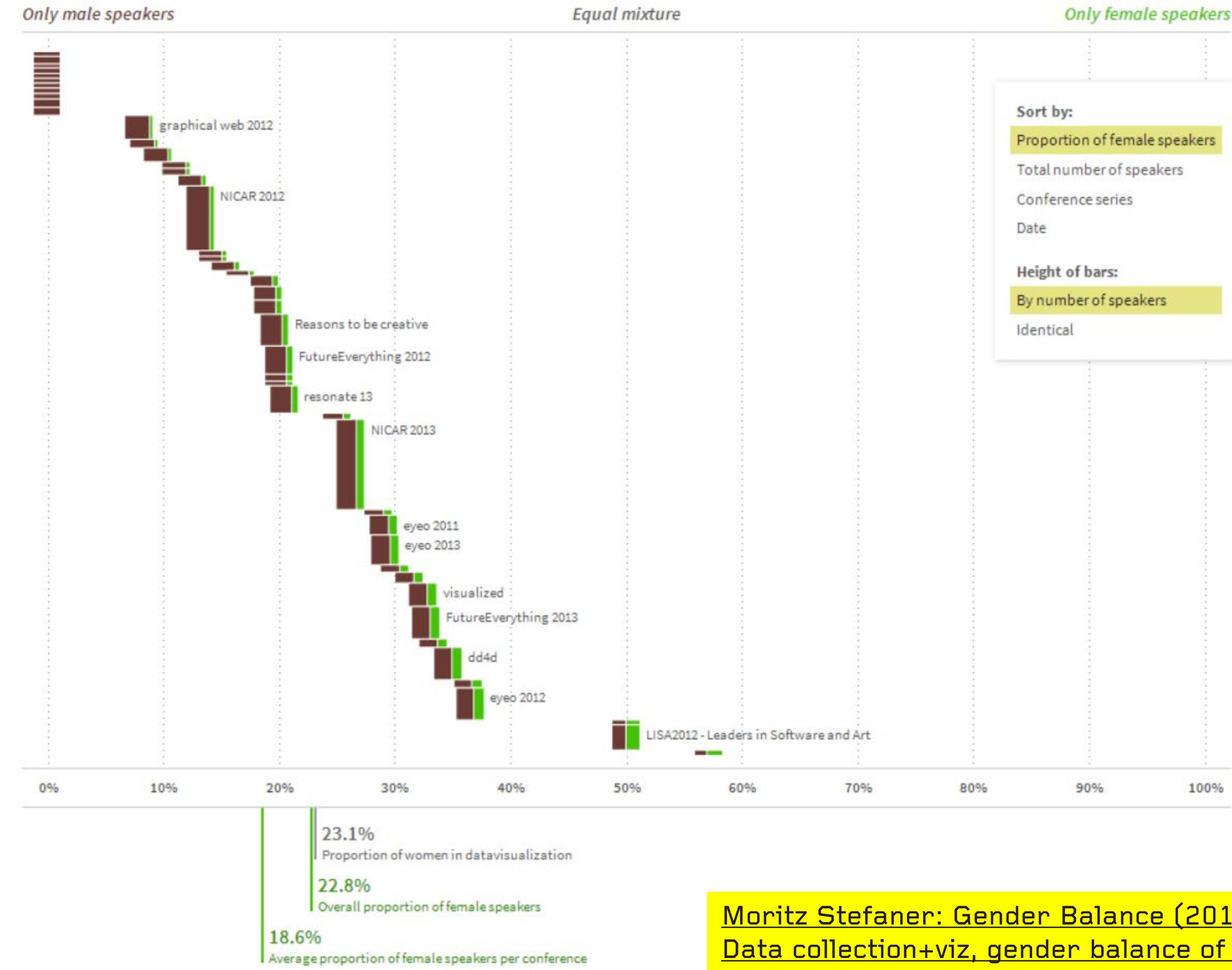
[Unicorn Law](#)
edited by A Wikia contributor 1 day ago

[See more >](#)**Geek Feminism Wiki**<http://geekfeminism.wikia.com/>

- January
 - Microsoft Dear Azure campaign
 - This is what it's like to be a woman at a Bitcoin meetup  Two women attend a bitcoin meetup and are immediately groped, propositioned, and insulted
 - Games reporter Josh Mattingly sexually harasses story lead 
 - NBC Sports affiliate editor Dustin Hennessey assaults two women at Arisia Con in Boston, MA  The Code of Conduct policy empowered one of the women to report the incident and resolve the situation.
 - Dana McCallum rape arrest
- February
 - "Girls and software"  article published in Linux Journal magazine.
 - Male Champions of Change event
- March
 - "The Dating Ring", a Y-Combinator funded startup, organizes a crowdfunding campaign to fly single women from NYC to San Francisco to meet men .
 - Julie Ann Horvath quit GitHub
 - GAME_JAM walk out
 - debian-devel-games trolling Debian gets trolled into taking a "problematic" work of interactive fiction seriously.
- April
 - Gurbaksh Chahal domestic violence conviction
 - CodeBabes.com
 - Cherry City Comic Con shames a woman  for requesting a refund because she felt she would not be safe at the con.
- May
 - Booth babes make an appearance at the EMCWorld conference 
 - Django primary-replica terminology patch dispute
 - Google releases workforce diversity data
- June
 - An Atlassian developer, Jonathan Doklovic, compares Maven to his annoying girlfriend  in a conference presentation. (<http://www.npr.org/blogs/alltechconsidered/2014/06/04/318882549/women-complain-a-lot-interrupt-developer-says-at-conference> .
 - A Livestream developer, Ash Taylor, wrote a public tweet  calling tech feminist activists Ashe Dryden and Shanley Kane "scumbags", after which he deleted the tweet and deleted his雌性主义 activist from his Twitter profile.

[Geek Feminism Wiki](#)

<http://geekfeminism.wikia.com/>



Moritz Stefaner: Gender Balance (2013)
Data collection+viz, gender balance of creative tech speakers



Steve Marcus / Reuters

The Odds That a Panel Would 'Randomly' Be All Men Are Astronomical

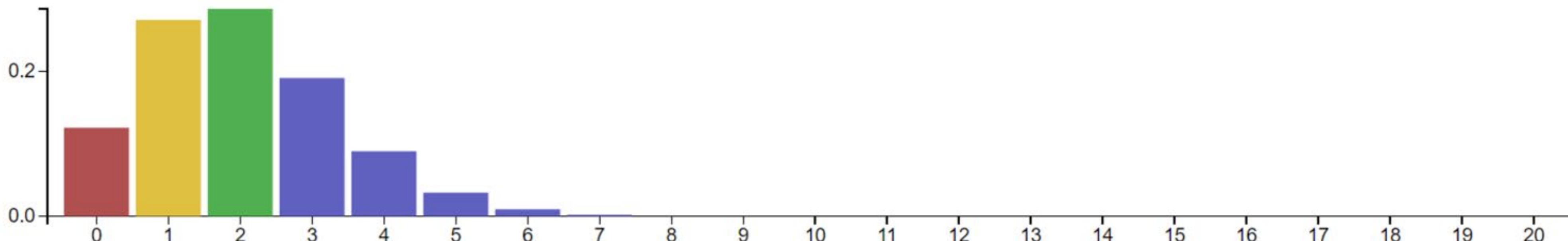
One mathematician's formula suggests that all-male lineups don't "just happen," despite what conference organizers might claim.



The Atlantic, Oct 2015

Conference Diversity Distribution Calculator

How many would you expect in a random selection of people, assuming they constitute % of available speakers?



This selection has:

- a 32% chance of over-representing women
- a 29% chance of representing women exactly
- a 12% chance of not representing women at all

Over-representation is therefore about **2.7 times** as likely as no representation.

What's this about?

Tech conference speaker line-ups frequently contain few or no women at all. I believe, as many others do, that most conference selection processes are biased towards the dominant demographics—male, young, straight, white, able-bodied, cisgendered—and that addressing and removing this bias is an important part of the battle to increase diversity in the industry at large.

I sometimes encounter the argument that speaker line-ups that fail to adequately represent women are not the product of systemic discrimination, but rather an inevitably frequent occurrence in an industry as male-dominated as ours. On the face of it, this makes intuitive sense.

Human beings, however, are notoriously bad with probabilities.

This calculator was inspired by comments from [Dave Wilkinson](#) and [Paul Battley](#), who modelled the probability distribution for male/female speaker line-ups and found that the likelihood of an unbiased selection process yielding a line-up with no women at all is far lower than intuition might suggest, and—[Aanand Prasad, Diversity Calculator](#) can often be far lower than the likelihood of their over-representation. That is to say: **in an unbiased selection, you're significantly more likely to see more than the expected number of women than none at all.**

CULTURAL BIAS VS. BIAS AS TECH

- » Culturally reinforced biases are bad enough. But what happens when bias is (un)intentionally included in algorithm development?
- » Can an algorithm be racist? (Take a wild guess.)
- » Software developers routinely adhere to principles related to accessibility. So why isn't preventing bias or cultural insensitivity a priority?



HP Responds to Claim of 'Racist' Webcams

BY CHLOE ALBANESIUS DECEMBER 22, 2009 08:35AM EST 103 COMMENTS

In a video posted to YouTube this week, two co-workers - one white and one black - tried out the webcam face-tracking software on an HP MediaSmart computer. It is supposed to follow users as they move, but it fails to recognize Desi, a black man.

440
SHARES



Hewlett-Packard this week shot down suggestions that its MediaSmart webcams are racist.

In a [video](#) posted to YouTube this week, two co-workers - one white and one black - tried out the webcam face-tracking software on an HP MediaSmart computer. It is supposed to follow users as they move, but it fails to recognize Desi, a black man. When his co-worker Wanda, who is white, enters the frame, it immediately recognizes her and follows her in the frame.

"As soon as my blackness enters the frame ... it stopped," Desi said. "As soon as white Wanda appears, the camera moves. Black Desi gets in there? Nope, no facial recognition anymore, buddy. I'm going on record and I'm saying it. Hewlett-Packard computers are racist."

Despite the accusations, Desi is good-natured and seemingly amused by the problem.

HP responded on its [blog](#).

"We are working with our partners to learn more," HP said. "The technology we use is built on standard algorithms that measure the difference in intensity of contrast between the eyes and the upper cheek and nose. We believe that the camera might have difficulty 'seeing' contrast in conditions where there is

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8 Super Weird Bootleg Game Consoles



Saying Farewell to Tekserve and Paying Big Bucks for Tech History

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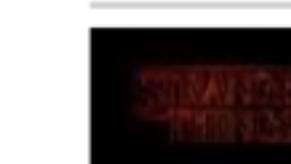
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The Biggest Software Flops of All Time



The Eerie World of Abandoned Arcade Games



TV Shows That Love 'Stranger Things'

2009 HP's "racist" web cams

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Teaching The Camera To See My Skin

Navigating photography's inherited bias against dark skin.

posted on April 2, 2014, at 8:01 p.m.



Syreeta McFadden

BuzzFeed Contributor



[Syreeta McFadden: "Teaching the camera to see my skin"](#)

I was 12 years old and paging through a photo album; my memories of the days seemed to fade in the photo's recreation. In some pictures, I am a mud brown, in others I'm a blue black. Some of the pictures were taken within moments of one another. "You look like charcoal," someone said, and giggled. I felt insulted, but I didn't have the words for that yet. I just knew that I didn't want to be seen as a quality of a dark black that would invite hatred on my skin.

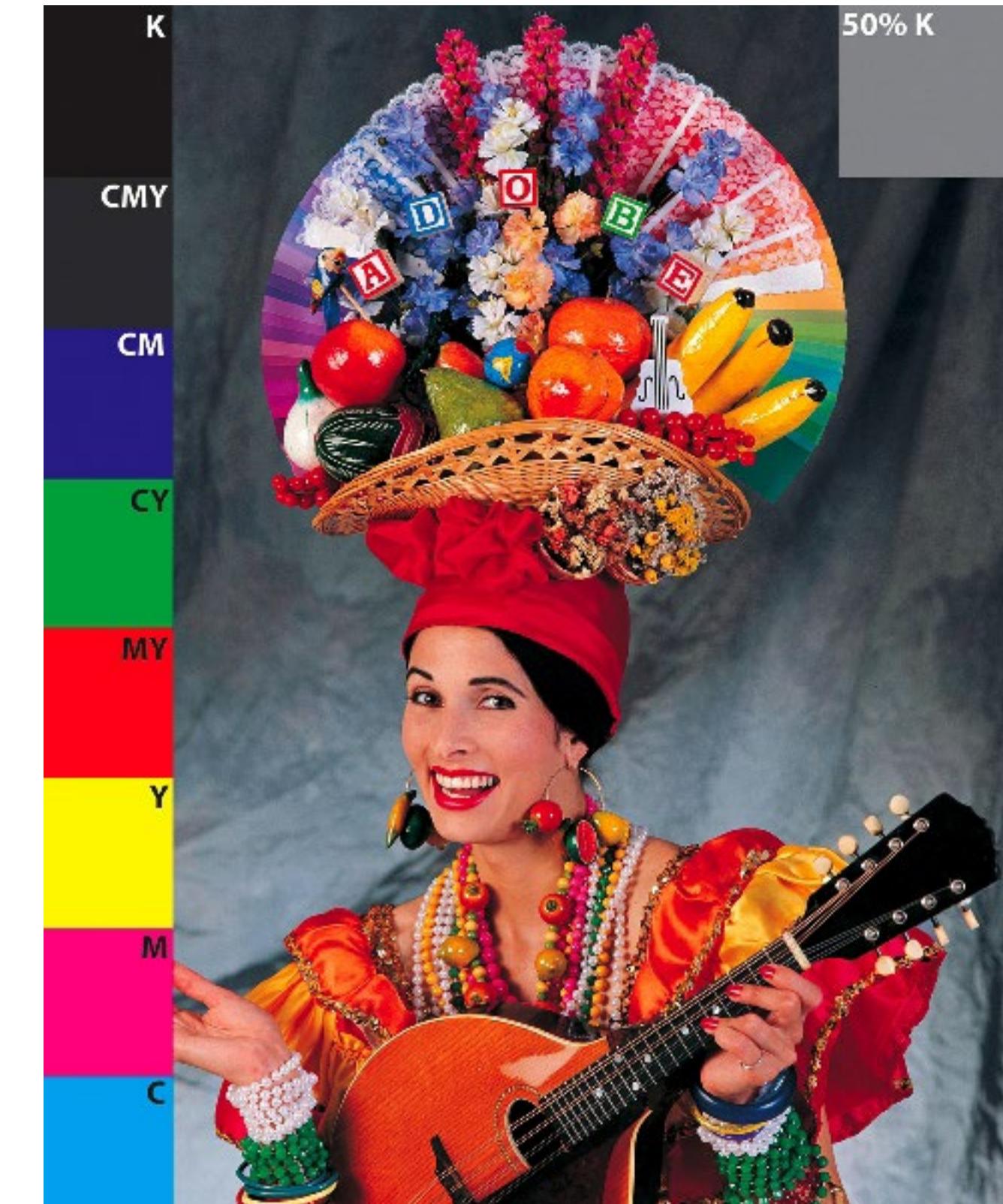
A year later, it was 1988 and the overhead kitchen light burned the dullest yellow as my mother placed four proofs on the table from an Olan Mills photo session. Each wallet-sized print contained various permutations of my little sister, my mother, father, and me. She wanted to know what we thought.

I considered each of the images. I couldn't see my face. "Why do I look so dark?"

"Maybe it's just dark in here." She flipped the curtains upward and wound them around the curtain rod to let the dull winter light in. It didn't help. The clothes were OK — the bright blue vest over a striped blue shirt underneath. The updo wasn't the camera's fault. But my eyes looked like sunken holes in a small brown face, and my pupils were invisible.

"I don't even look like me."

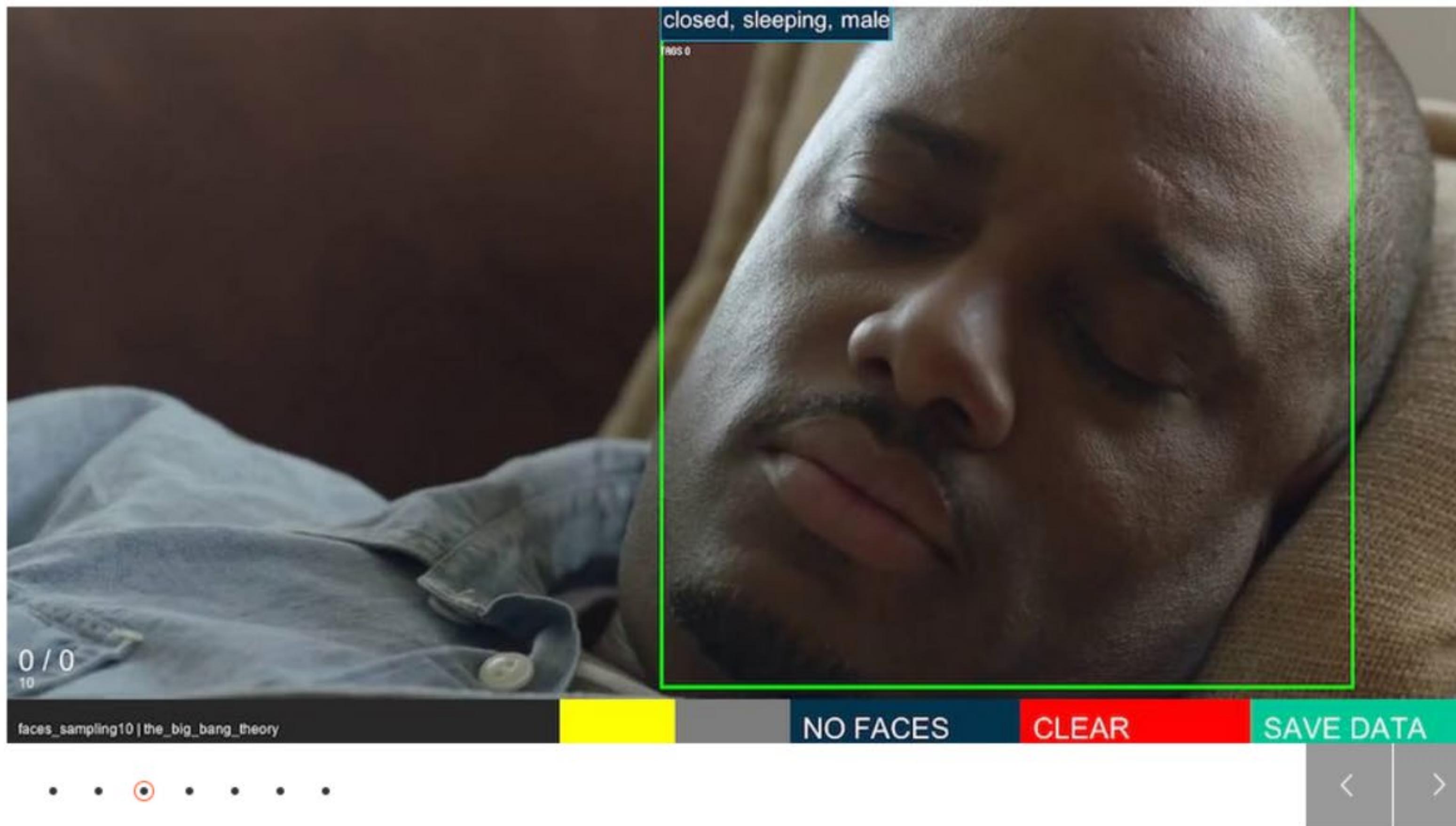
Syreeta McFadden: "Teaching the camera to see my skin"



"Shirley cards" (color balance reference sheets)
Year unknown

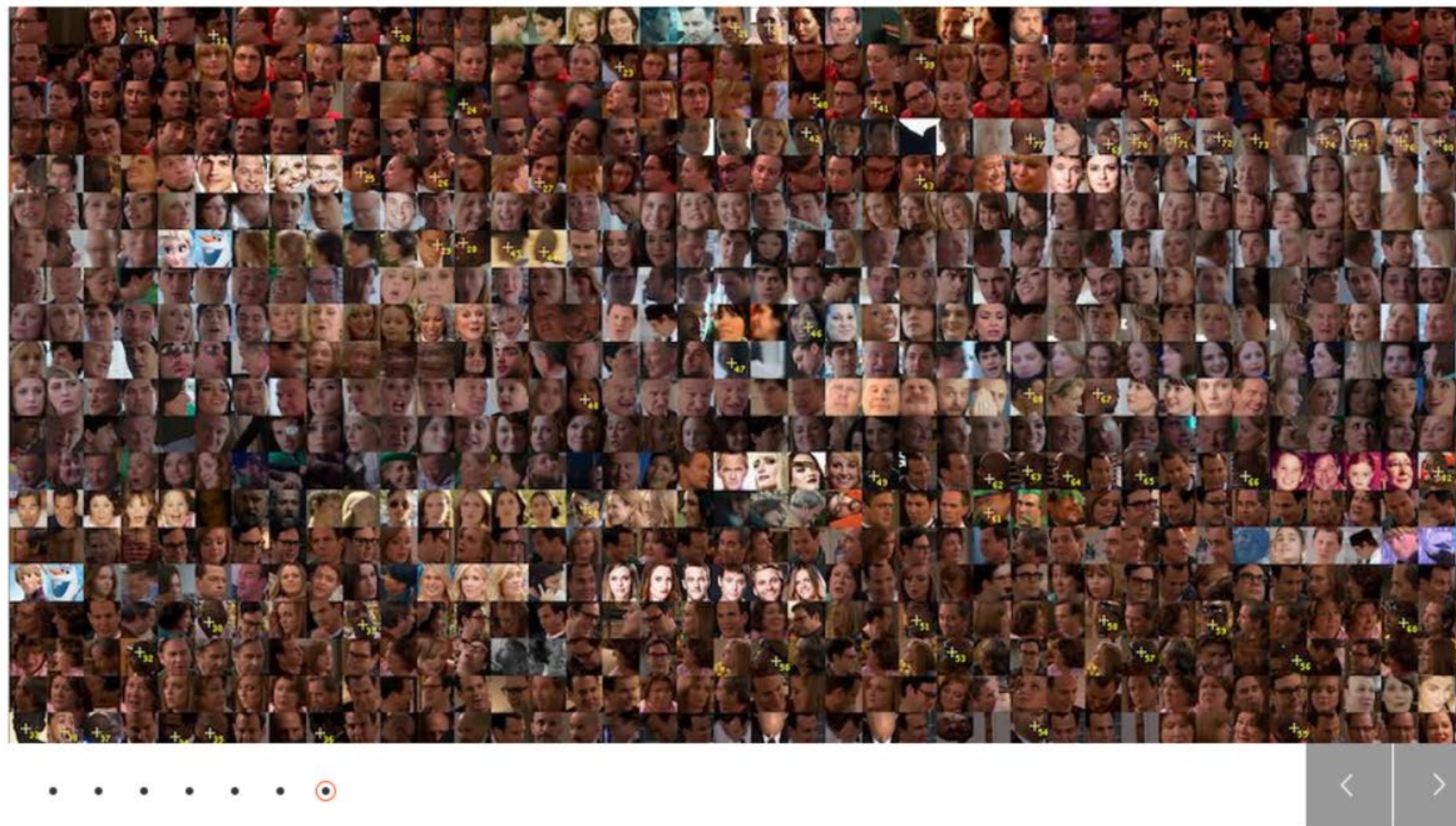


Contemporary color reference
Getty Images, year unknown



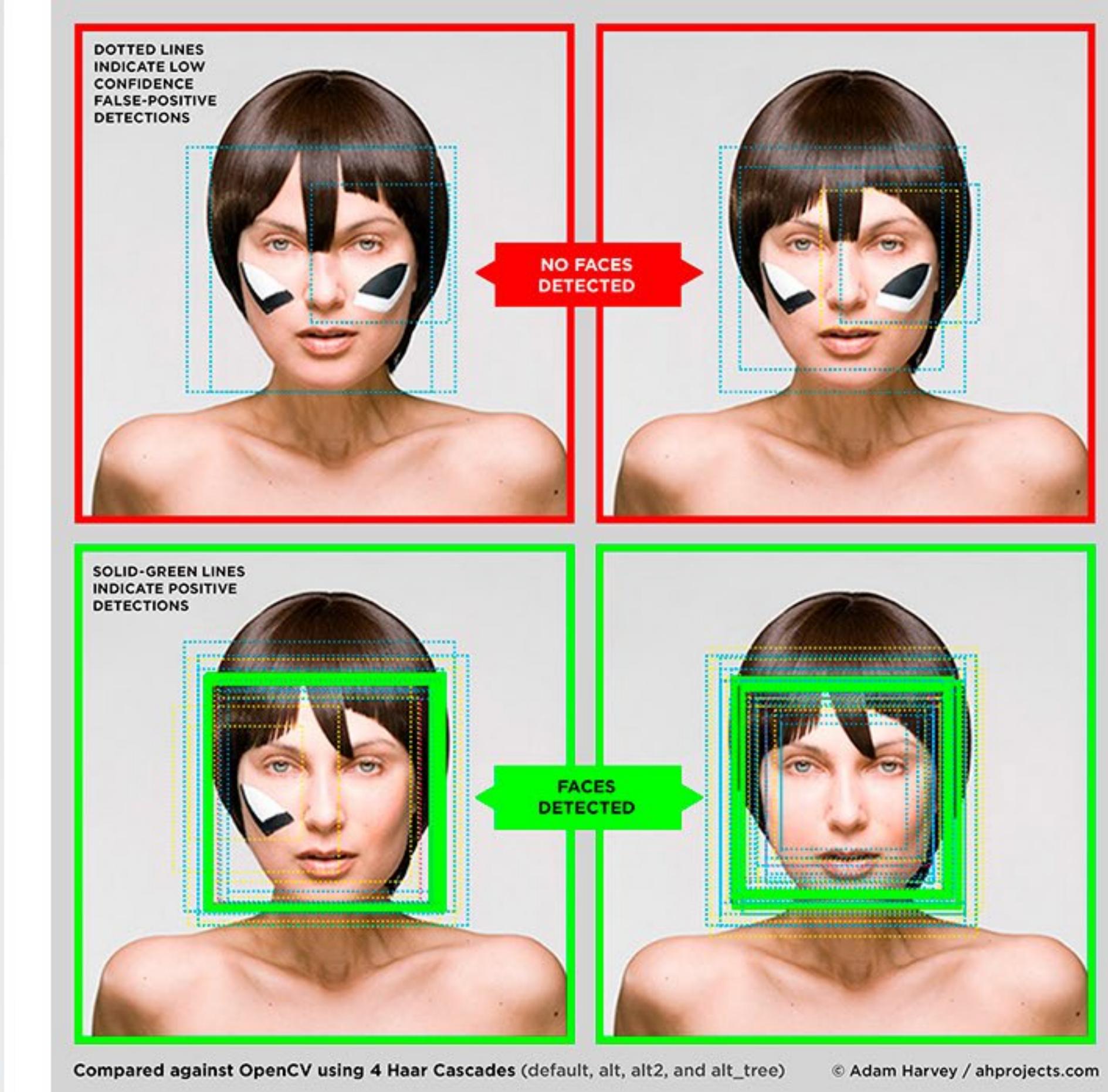
INVESTIGATIONS OF BIAS, DIVERSITY, AND ALGORITHMS

[Greg Dorsainville: DataFaces.net](http://GregDorsainville.com/DataFaces.net)



INVESTIGATIONS OF BIAS, DIVERSITY, AND ALGORITHMS

[Greg Dorsainville: DataFaces.net](#)



Compared against OpenCV using 4 Haar Cascades (default, alt, alt2, and alt_tree)

© Adam Harvey / ahprojects.com

[Adam Harvey: CV Dazzle](#)



[Adam Harvey: CV Dazzle](#)



52 **Marius Watz**
@mariuswatz

A dollar for every time a TV crime show references [@adamhrv](#)'s CV Dazzle... (Case in point: Elementary S0403)



RETWEETS LIKES
5 19

1:11 AM - 4 Dec 2015

5 19



50 **Adam Harvey** @adamhrv · 4 Dec 2015

@mariuswatz amazing! They did a nice job blocking the facial features. The pink is fun, but black hair would work equally (color is ignored)

View other replies



52 **Marius Watz** @mariuswatz · 4 Dec 2015

@adamhrv Honestly, that makeup would look bad even to a 70's punk rocker. Btw, you know CV Dazzle is also referenced on Minority Report?



50 **Adam Harvey** @adamhrv · 4 Dec 2015

@mariuswatz could have looked better if they consulted, but more fun to let everyone freestyle



54 (((excuse u))) @omershapira · 4 Dec 2015

@mariuswatz @adamhrv unfortunately that's how artist attribution works



52 **Marius Watz** @mariuswatz · 4 Dec 2015

@omershapira I'd like to see a Tumblr of this stuff. Like when [@ben_fry](#)'s Valence did a cameo in The Hulk. [@adamhrv](#) cc [@atduskgreg](#)

Adam Harvey: CV Dazzle

Who to follow · Refresh · View all

N · Refresh · View all

MACHINE LEARNING IS SO EXCITING (AND ABSOLUTELY TERRIFYING)

- » If simple image processing or sensor sensitivity can lead to people of color not being seen, consider the exciting and terrifying potential of machine learning.
- » Recognizers are famous for hilariously mis-identifying objects, largely due to limitations in training data.
- » But what is hilarious while debugging, can be horribly inappropriate (and potentially brand-destroying) when deployed unchecked.

Flickr's autotag system mislabels concentration camps as 'jungle gyms'

- Flickr, which is owned by Yahoo, is working on fixing its autotag software
- It introduced image recognition tagging system to improve search results
- Pictures of black men have been allegedly labelled with the word 'ape'
- Concentration camps have been tagged as 'jungle gym' and as 'trellis'

By RICHARD GRAY FOR MAILONLINE

PUBLISHED: 11:36 EST, 22 May 2015 | UPDATED: 13:08 EST, 22 May 2015



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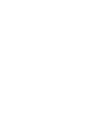
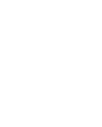
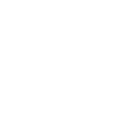
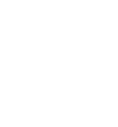
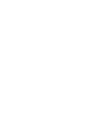
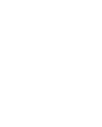
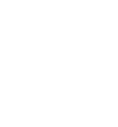
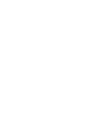
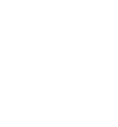
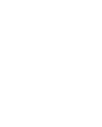
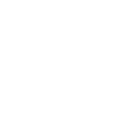
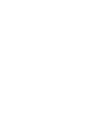
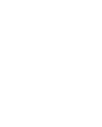
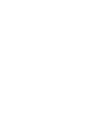
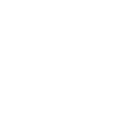
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P



g+



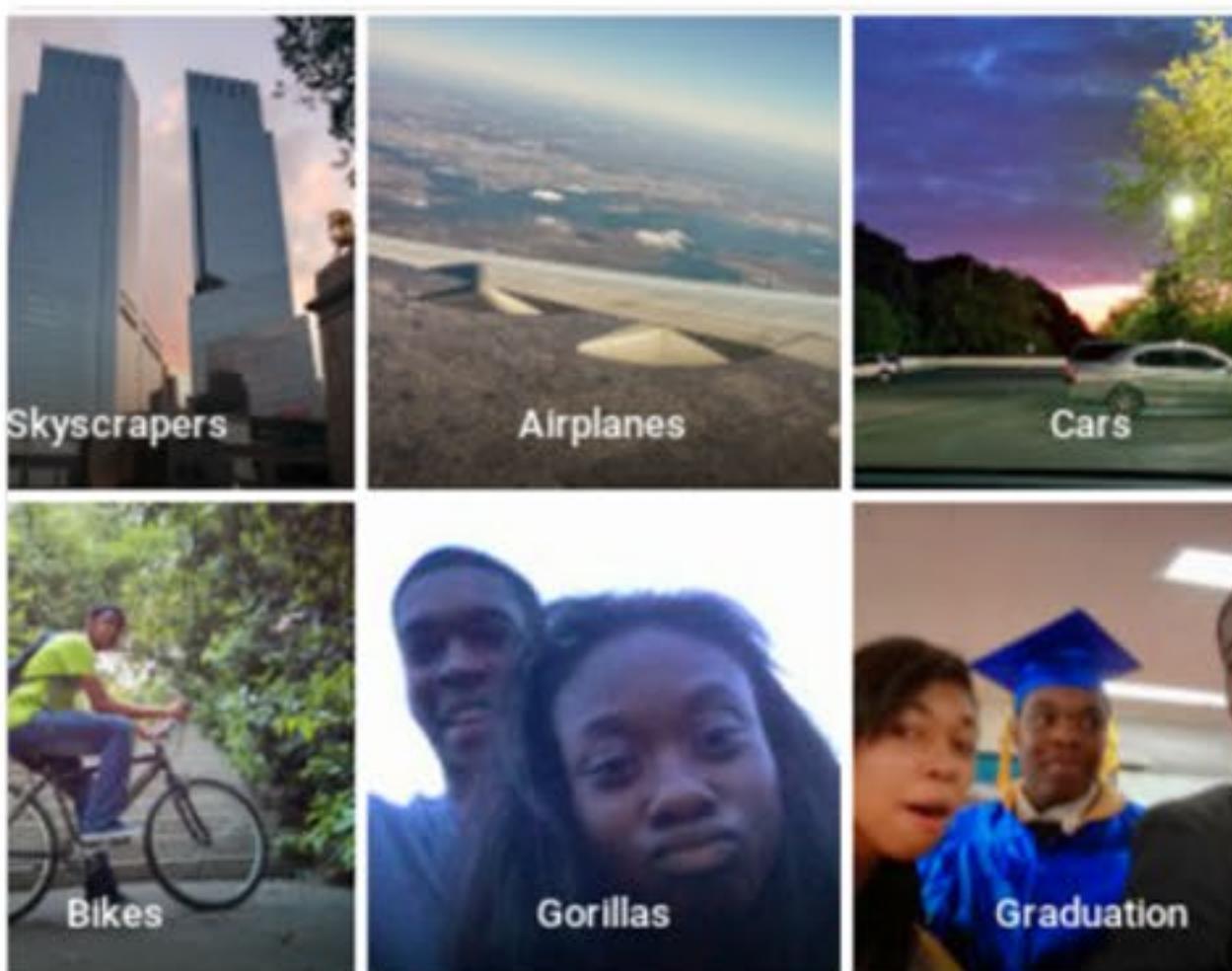


52 ~jalcine~
@jackyalcine



Follow

Google Photos, y'all fucked up. My friend's not a gorilla.



RETWEETS
3,274

LIKES
1,993



9:22 PM - 28 Jun 2015



~jalcine~

@jackyalcine

cur: @getclef :: black.af ::
A826B1390E3BB7307058F32B58F94BCEE
02AD2C4 :: https://t.co/7i1RsAzezE,
@goodforpoc :: he/him/his :: Haitian +
Brooklyn :: infosec

Joined June 2009



Reply to @jackyalcine



52 ~jalcine~ @jackyalcine · 28 Jun 2015

Fuck, the only thing under this tag is my friend and I being tagged as a gorilla.
What the fuck? -



View other replies



52 ~jalcine~ @jackyalcine · 28 Jun 2015

What kind of sample image data you collected that would result in this son?



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Jacky Alcine on Twitter



Machine Bias

There's software used across the country to predict future criminals. And it's biased against blacks.

by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica

May 23, 2016

ON A SPRING AFTERNOON IN 2014, Brisha Borden was running late to pick up her god-sister from school when she spotted an unlocked kid's blue Huffy bicycle and a silver Razor scooter. Borden and a friend grabbed the bike and scooter and tried to ride them down the street in the Fort Lauderdale suburb of Coral Springs.

Just as the 18-year-old girls were realizing they were too big for the tiny conveyances — which belonged to a 6-year-old boy — a woman came running after them saying, "That's my kid's stuff." Borden and her friend immediately dropped the bike and scooter and walked away.

But it was too late — a neighbor who witnessed the heist had already called the police. Borden and her friend were arrested and charged with burglary and petty theft for the items, which were valued at a total of \$80.

Compare their crime with a similar one: The previous summer, 41-year-old Vernon Prater was picked up for shoplifting \$86.35 worth of tools from a nearby Home Depot store.

Prater was the more seasoned criminal. He had already been convicted of armed robbery and attempted armed robbery, for which he served five years in prison, in addition to another armed robbery charge. Borden had a record, too, but it was for misdemeanors committed when she was a juvenile.

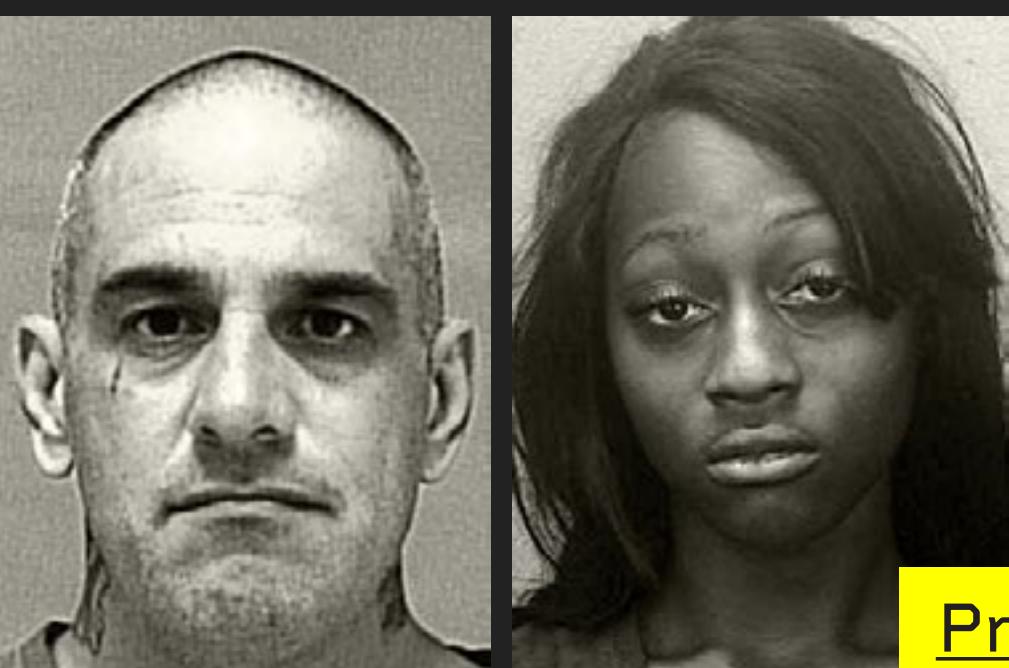
Yet something odd happened when Borden and Prater were booked into jail: A computer program spat out a score predicting the likelihood of each committing a future crime. Borden — who is black — was rated a high risk. Prater — who is white — was rated a low risk.

Two years later, we know the computer algorithm got it exactly backward. Borden has not been charged with any new crimes. Prater is serving an eight-year prison term for subsequently breaking into a warehouse and stealing thousands of dollars' worth of electronics.

Scores like this — known as risk assessments — are increasingly common in courtrooms across the nation. They are used to inform decisions about who can be set free at every stage of the criminal justice system, from assigning bond amounts — as is the case in Fort Lauderdale — to even more fundamental decisions about defendants' freedom. In Arizona, Colorado, Delaware, Kentucky, Louisiana, Oklahoma, Virginia, Washington and Wisconsin, the results of such assessments are given to judges during criminal sentencing.

Rating a defendant's risk of future crime is often done in conjunction with an evaluation of a defendant's rehabilitation needs. The Justice Department's National Institute of Corrections now encourages the use of such combined assessments at every stage of the criminal justice process. And a landmark sentencing reform bill currently pending in Congress would mandate the use of such assessments in federal prisons.

Two Petty Theft Arrests



VERNON PRATER

RISK: 3

BRISHA BORDEN

RISK: 8

In 2014, then U.S. Attorney General Eric Holder warned that the risk scores might be injecting bias into the courts. He called for the U.S. Sentencing Commission to study their use. "Although these measures were crafted with the best of intentions, I am concerned that they inadvertently undermine our efforts to ensure individualized and equal justice," he said, adding, "they may exacerbate unwarranted and unjust disparities that are already far too common in our criminal justice system and

ProPublica on bias in crime risk assessment software models (2016)

launch a study of risk scores. So ProPublica did, as part of a larger examination of the powerful and hidden effect of algorithms in American life.

ALSO: DATA COLLECTION (AND NON-COLLECTION)

- » Data collection is largely accepted as the privilege of government and corporations, often unchecked and rarely questioned. (Compare US to European policies on data collection and retention.)
- » Both what data is collected and *how* it is collected have major implications for harm potential.
- » What are the mechanisms of collection, what fields are collected, is the data anonymized and reliably updated / deprecated?
- » Conversely: The absence of data, where data could reasonably be expected to exist, is most revealing.



The Counted

People killed by police in the US

[SEND A TIP](#)[DATABASE](#)[ABOUT](#)[READ ARTICLES](#)[JOIN US:](#)

PEOPLE KILLED IN 2016

7 | 6 | 1 | 2

RACE & ETHNICITY TOTAL

5.49	Native American
4.71	Black
2.28	Hispanic/Latino
1.88	White
0.72	Asian/Pacific Islander

STATE NAME TOTAL

NM	AK	DC	SD	AZ	OK	CO	WV	HI	AL	NE	KY	OR	WI	CA
MT	AR	NV	WY	LA	NE	KY	OR	WI	CA	Total killed:	20			
MO	TN	MS	WA	FL	SC	KS	NC	VA	TX	Population:	2,085,109			
GA	UT	RI	ID	MD	IN	MN	VT	IL	OH	Rank (per capita):	1 / 51			
MA	ND	IA	MI	CT	DE	PA	NJ	NY	ME	Rank (total):	8 / 51			

NH

[2016](#) [2015](#) [List](#) [Map](#)

Search by name:

eg Freddie Gray

Filter by:

State

Armed/unarmed

Gender

Age

Race/ethnicity

Classification

September 2016

34 people

SEPTEMBER 12, 2016
Unknown
Gunshot
 California

SEPTEMBER 12, 2016
Unknown
Gunshot
 California

SEPTEMBER 12, 2016
Markell Bivins, 25
Gunshot
 Iowa

SEPTEMBER 11, 2016
Terrence Sterling, 31
Gunshot
 District of Columbia

SEPTEMBER 10, 2016
Dennis Stanley
Gunshot
 West Virginia

SEPTEMBER 9, 2016
Travis Ell, 64
Gunshot

SEPTEMBER 9, 2016
Gregory Frazier, 56
Gunshot

SEPTEMBER 8, 2016
Ricardo Tenorio, 32
Gunshot

SEPTEMBER 8, 2016
[The Guardian: The Counted \(2015\)](#)
[Database of US police shootings](#)

Fatal Encounters

A step toward creating an impartial, comprehensive and searchable national database of people killed during interactions with law enforcement

 Search



[Home](#) [Posts](#) [Tools](#) ▾ [Visualizations](#) ▾ [Report errors](#) [Donate](#) [About](#) ▾ [Memorial Pages](#) ▾

First encounter

"The nation's leading law enforcement agency [FBI] collects vast amounts of information on crime nationwide, but missing from this clearinghouse are statistics on where, how often, and under what circumstances police use deadly force. In fact, no one anywhere comprehensively tracks the most police can do in the line of duty: take a life," according to the Las Journal in its series Deadly Force (Nov. 28, 2011).

[Fatal Encounters \(D. Brian Burghart et.al,2012\)](#)
[Tracking of US Officer-involved homicides](#)



52 **Marius Watz**

@mariuswatz

Great story about ironies of Open Data success: [@washingtonpost](#) winning Pulitzer off the work of [@fatalencounters++](#)



What I Learned About the Washington Post From Four Year...

Earlier this month, the Washington Post was awarded the 2016 Pulitzer Prize for National Reporting for its project on police violence, "Fatal Force." The Pulitzer Prize Board singled out the...

[gawker.com](#)

LIKES

3



2:26 PM - 26 Apr 2016



...



Reply to [@washingtonpost](#) [@fatalencounters](#)

The potential irony of Open Data "success"

New York

[Instagram.com/p/BLFSouthKSD/](#)

COUNTER-COLLECTION AND CITIZEN DATA SCIENCE:

- » NGOs, journalists and independent groups often collect data on controversial issues and in dangerous locales, where “official” sources are either missing or likely unreliable.
- » Distributed, crowdsourced and encrypted tools for data collection (apps, APIs, wikis) provide the means to develop alternative networks for information exchange.
- » Citizen data science challenges existing data narratives and may provides input on issues outside the scope of corporate and government efforts.

Examples: Tracking CIA rendition routes, drone strike casualties, citizen weather stations, networks of corporate influence.

An overview and exploration of the concept of missing datasets.

9 commits	1 branch	0 releases	1 contributor
Branch: master New pull request		Create new file	Upload files
MimiOnuoha Fixed typos in links section			Latest commit 0057662 on Aug 15
resources	Initial commit		8 months ago
README.md	Fixed typos in links section		a month ago
README.md			

On Missing Data Sets

This repo will be periodically updated with more information, links, and topics. Most recent update: 08/15/16.

Overview

What is a Missing Data Set?

"Missing data sets" are my term for the blank spots that exist in spaces that are otherwise data-saturated. My interest in them stems from the observation that within many spaces where large amounts of data are collected, there are often empty spaces where no data live. Unsurprisingly, this lack of data typically correlates with issues affecting those who are most vulnerable in that context.

The word "missing" is inherently normative, it implies both a lack and an ought: something does not exist, but it should. That which should be somewhere is not in its expected place; an established system is disrupted by distinct absence. Just because some type of data doesn't exist doesn't mean it's missing, and the idea of missing data sets is inextricably tied to a more expansive climate of inevitable and routine data collection.

Why Do They Matter?

That which we ignore reveals more than what we give our attention to. It's in these things that we find cultural and colloquial hints of what is deemed important. Spots that we've left blank reveal our hidden social biases and indifferences.

Why Are They Missing?

There are a number of reasons why a data set that seems like it *should* exist might not, and they are all tied to the quiet complications inherent in data collection. Below are four reasons, with accompanying real-world examples.

1. Those who have the resources to collect data lack the incentive to.

Police brutality towards civilians provides a powerful example. Though policing and crime are among the most data-driven areas of public policy, traditionally there has been little history of standardized and rigorous data collected about police brutality.

Nowadays we've got a political and cultural climate where this issue has become one of public discussion. Public interest campaigns like [Fatal Encounters](#) and the [Guardian's The Counted](#) have helped fill that void. But even for these individuals/organizations the work is difficult and time-consuming. The group who would make the most sense to monitor this issue—the law enforcement agents who *create* the data set in the first place—have no incentive to actually gather such data, which could prove incriminating.

2. The data to be collected resist simple quantification (corollary: we prioritize collecting things that fit our modes of collection).

The defining tension of data collection is the struggle of taking a messy, organic world and defining it in formats that are neat, clean, and structured.

Some things are difficult to collect and quantify by nature of their structure. We don't know how much US currency is outside of our borders. There's no incentive for other countries to monitor US currency within their countries, and the very nature of cash and the anonymity it affords makes it difficult to track.

But then there are other subjects that resist quantification entirely. Things like emotions are hard to quantify (at this time, at least). Institutional racism is subtle and deniable; it reveals itself more in effects than in acts. Not all things are easily quantifiable, and at times the very desire to render the world more abstract, trackable, and machine-readable is an idea that itself deserves questioning.

3. The act of collection involves more work than the benefit the presence of the data is perceived to give.

Sexual assault and harassment are [woefully underreported](#). And while there are many reasons why this is, one major one is that in many cases the very act of reporting sexual assault is a very intensive, painful, and difficult process. For some, the benefit of reporting isn't perceived to be equal or greater than the cost of the process.

4. There are advantages to nonexistence.

To collect, record, and archive aspects of the world is an intentional act. There are situations in which it can be advantageous for a group to remain outside of the oft-narrow bounds of collection. In short, sometimes a missing dataset can function as a form of [protection](#).

Below is an ever-expanding list of missing datasets. Contributions are extra welcome.

An Incomplete List of Missing Data Sets

This list will always be incomplete, and is designed to be illustrative rather than comprehensive.

- Civilians killed in encounters with police or law enforcement agencies
- Sales and prices in the art world (and relationships between artists and gallerists)
- People excluded from public housing because of criminal records
- Trans people killed or injured in instances of hate crime
- Poverty and employment statistics that include people who are behind bars
- Muslim mosques/communities surveilled by the FBI/CIA
- Mobility for older adults with physical disabilities or cognitive impairments
- LGBT older adults discriminated against in housing
- Undocumented immigrants currently incarcerated
- Undocumented immigrants for whom prosecuto
- Measurements for global web users that take into account shared devices and VPNs
- True measures around how often sexual harassment happens in the workplace
- Firm statistics on how often police arrest women for making false rape reports

Mimi Onuhoha: Missing Data Sets

CONCLUSION: POWER IMPLIES RESPONSIBILITY

- » Creating technology should come with the responsibility to make sure that the potential of that technology to do harm, is predicted and minimized. (Preferably ahead of time.)
- » One developer's innocent assumption about calibration parameters can become a user's hurtful experience.
- » Collect only the data you need. Consider harmful cross-correlations.
- » Don't blame the algorithm. It's not a puppy.

CONCLUSION: BE NICE AND THINK.

- » Acknowledging that you have bias / privilege is not admitting fault or guilt. It's being honest and human.
- » Remember, there are both "known unknowns" and "unknown unknowns". Acknowledging limits to your personal knowledge and asking for input is the starting point of a conversation about possible concerns.
- » Don't be the team behind Apple Health, omitting the crucial health metric of period tracking from an otherwise extensive data platform.
- » When all else fails, apologize.

CONCLUSION: BE NICE AND THINK.

- » Stereotypes (the nerd, the jock, the clingy boyfriend, the always-angry feminist) are seductive due to their apparent ability to explain observed behavior. In reality, they reinforce subconscious bias and belittle individual complexity.
- » Expecting those who are being harmed or discriminated against to speak up and provide solutions, only serves to silence (as well as annoy) them.

To quote a good friend of mine, you can be the best. Or the worst.

AND NOW FOR SOME LIGHTER MATERIAL.

"CREATIVE CODE"

An awkward label loosely applied to creative practices in architecture, design and art.

Implies forms of creative expressions directly based on computational logic, both as a process tool and a material to manipulate.

Requires the articulation of aesthetic principles and decision-making as a set of algorithms, along with the parameter sets that define them.

"CREATIVE CODE"

Common "sub-genres":

- » Generative art
- » Parametric design / architecture
- » Data visualization (the new-fangled kind)
- » Computational typography
- » Interaction design

THE ALGORITHM THOUGHT POLICE

February 13, 2012

Update: Jesse Rosenberg from Nervous System has [posted a response](#) on their blog, essentially arguing a more purist approach. It's recommended reading as a counterpoint to my thoughts below, particularly since Jesse is an actual algorithm master whereas I am just a self-taught hack with an unconventional sense of color.

Tags

algorithm
cliche
[code](#)
[generative](#)
voronoi

Earlier today I made an off-hand quip on Twitter in response to [Jer Thorp](#) tweeting a link to 3D Voronoi code (incidentally written by the excellent [Frederik Vanhoutte](#).) The following snowball chain went as follows:

@blprnt We talked about this. Voronoi is off limits until 2015, it got used waaay too much by architects in 2011.

Temporarily banned algorithms: Circle packing, subdivisions, L-systems, Voronoi, the list goes on. Unless you make it ROCK, stay away.

(And if you don't think an algorithm can rock, we have nothing to talk about.)

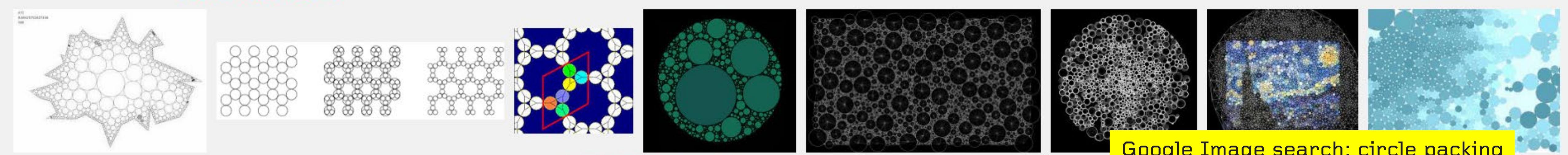
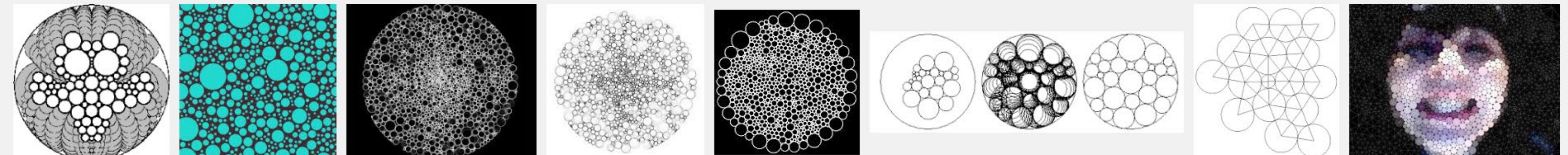
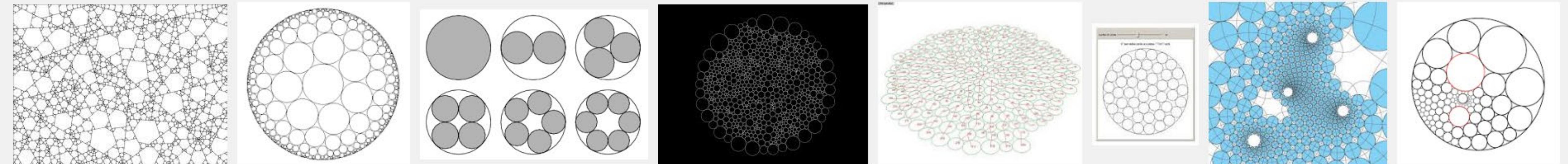
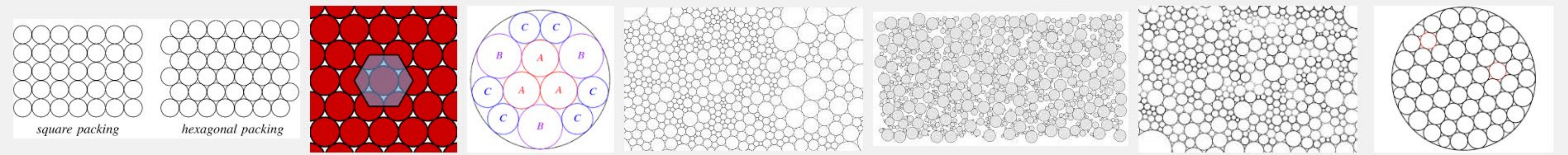
Inevitably, this generated a certain amount of retweets and responses, both positive and critical. So before anyone starts thinking of me as the Algorithm Thought Police, I'd like to clarify my statements in more nuance than 140 characters will allow. So let me restate my point.

Yes, heavy use of standard algorithms is bad for you. That is, it is if you wish to consider yourself a computational creative capable of coming up with interesting work. If you're a computer scientist or an engineer standard algorithms are your bread and butter, and you should go right ahead and use them.

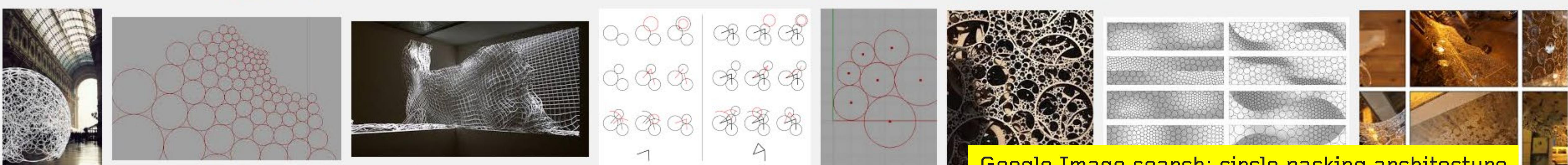
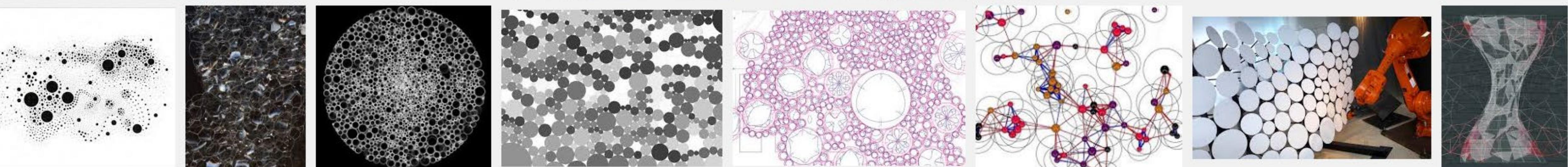
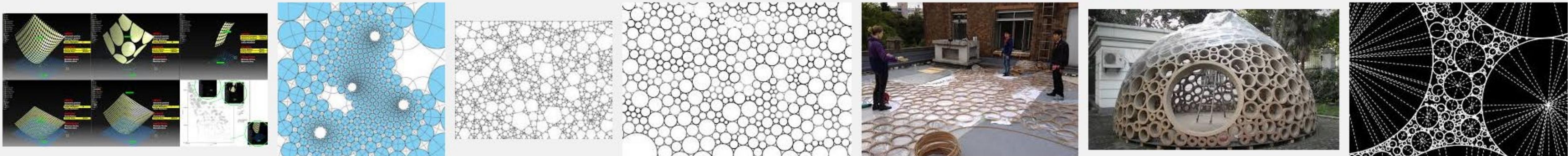
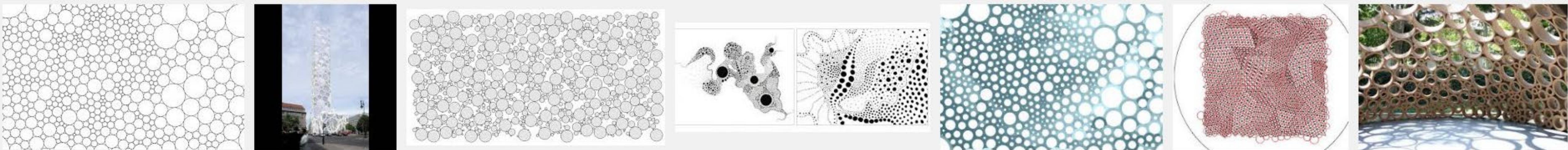
[The Algorithm Thought Police](#)
[Marius Watz, blog post, Feb 2012](#)

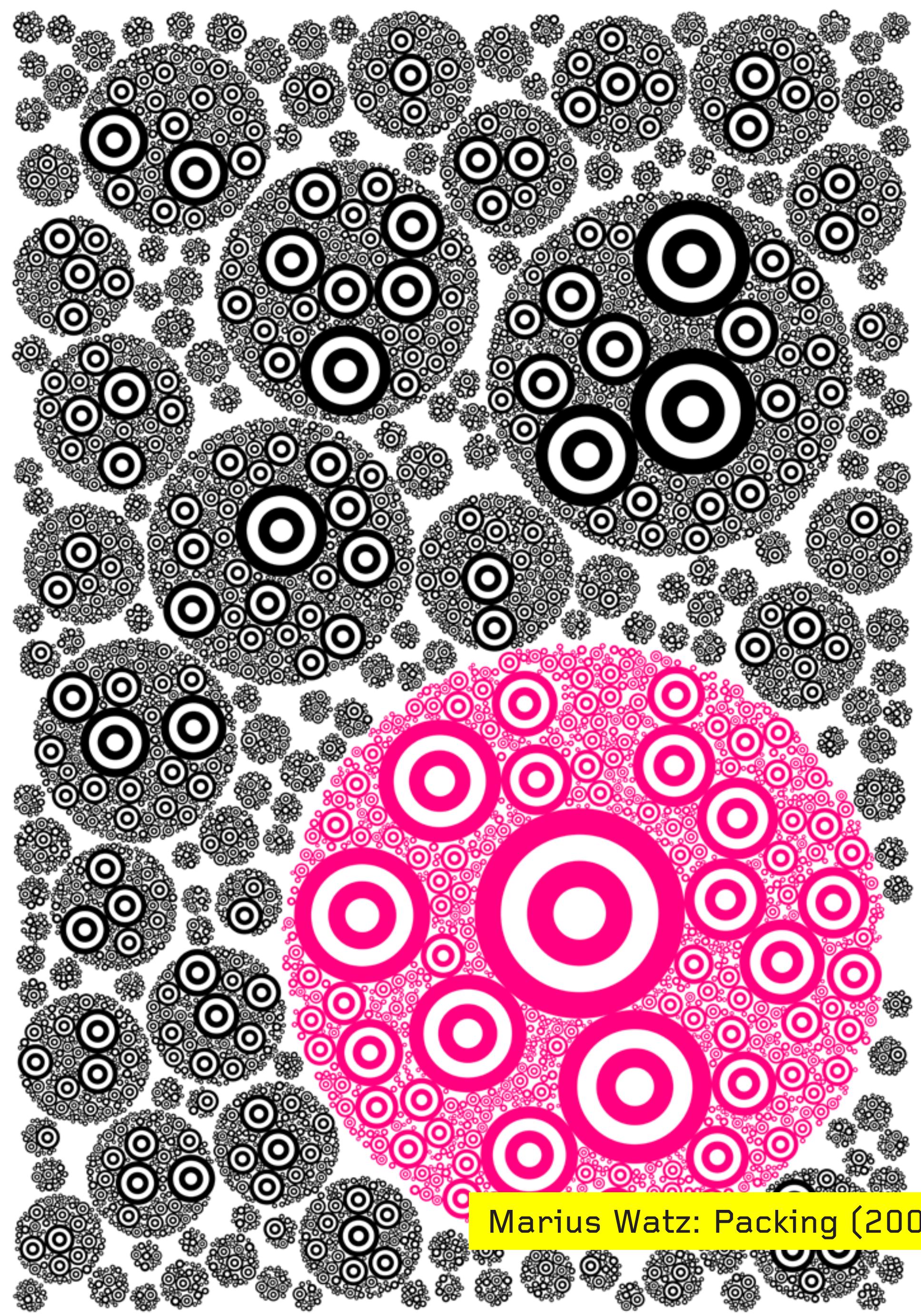
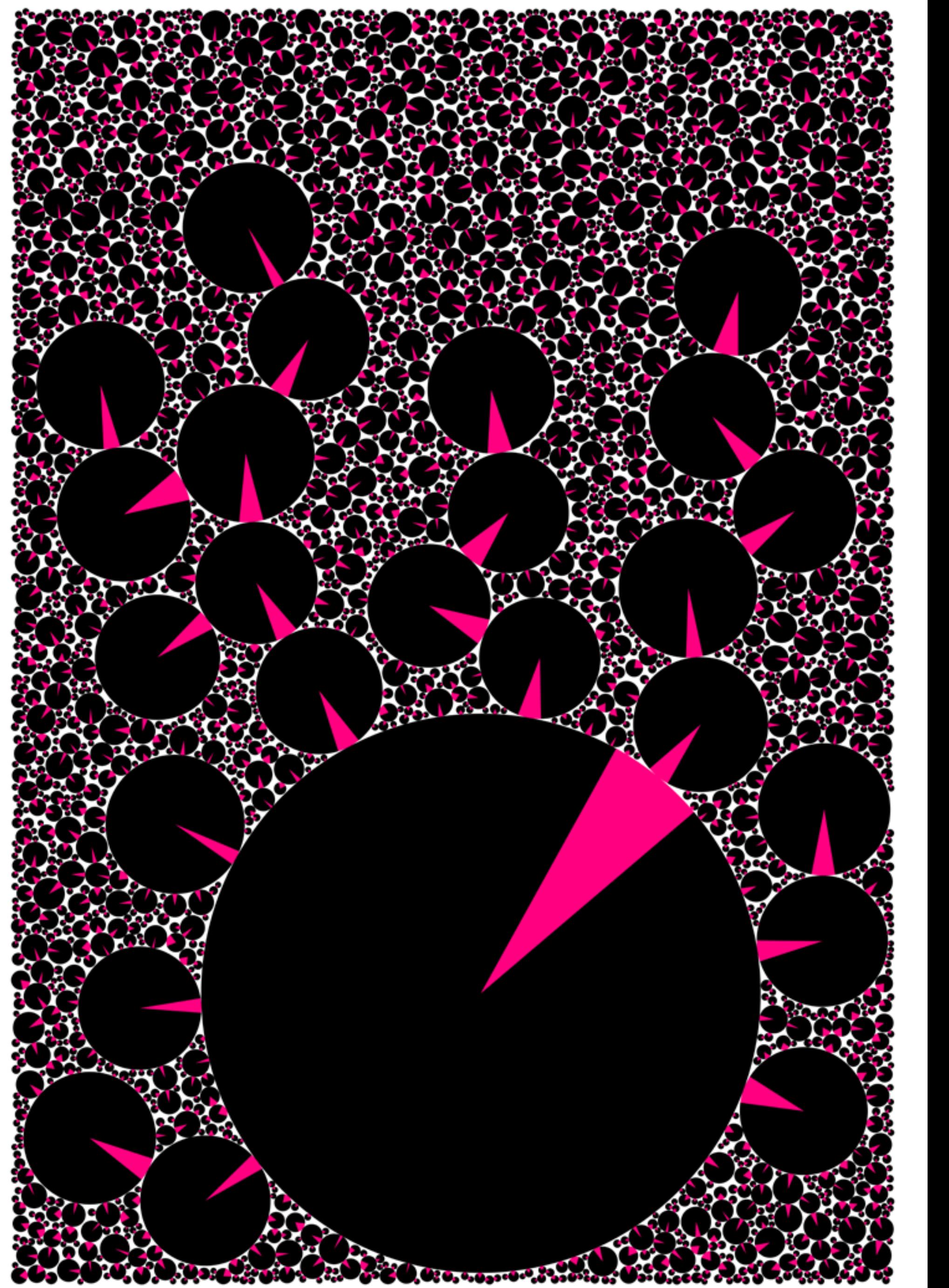
COMMON ALGORITHMS

- » Circle packing
- » Reaction diffusion
- » Fractals (yes, all of them)
- » Strange attractors
- » Voronoi / Delaunay diagrams
- » Flocking / boids
- » Cellular Automata (Game of Life etc)
- » Polygon subdivision
- » Iso-surfaces aka blobs

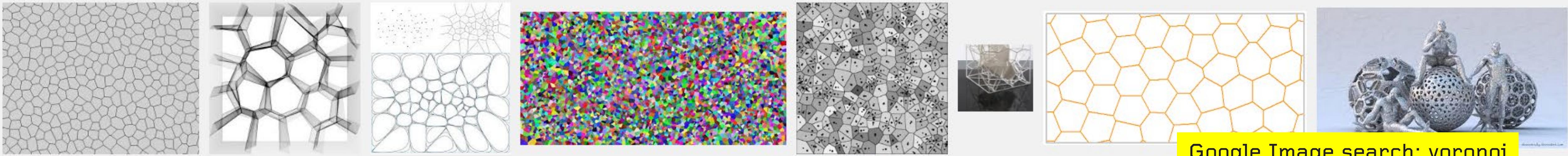
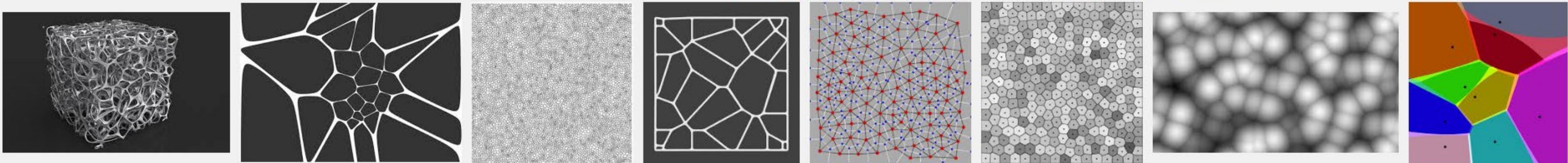
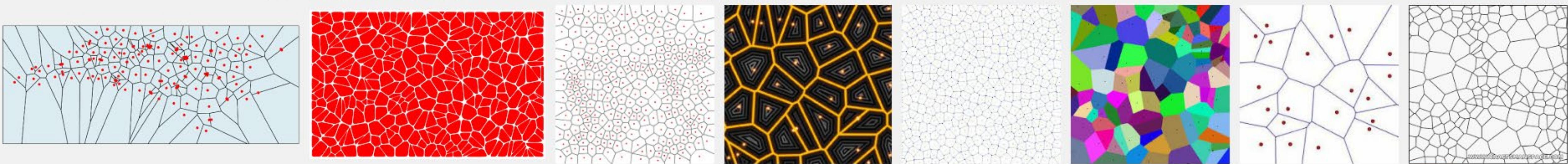
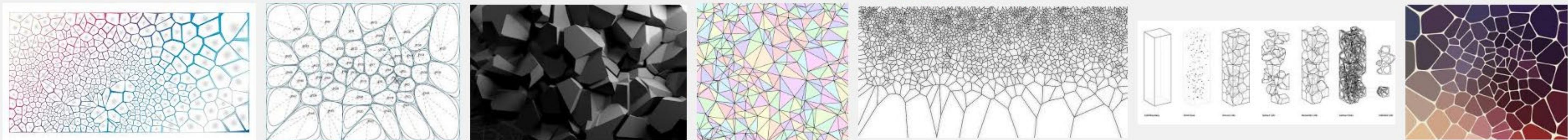
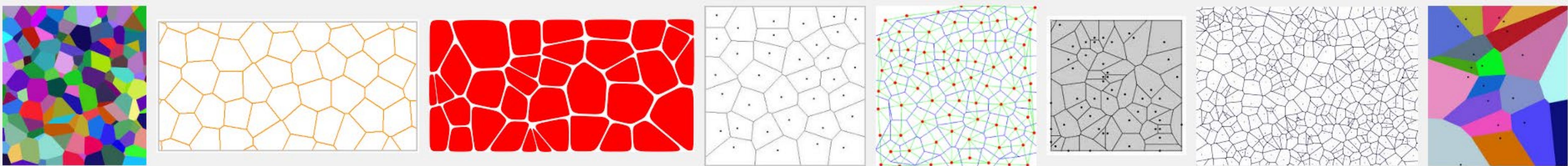


Google Image search: circle packing



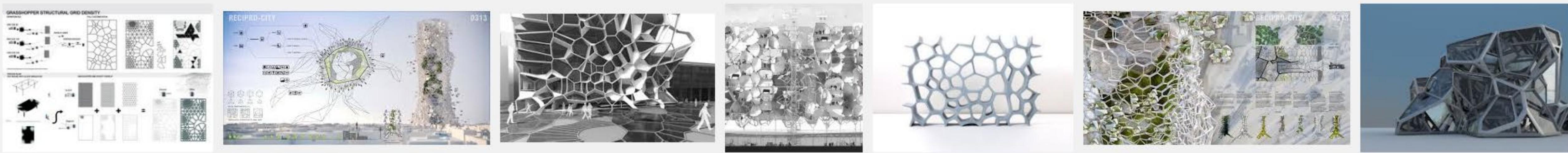


Marius Watz: Packing (2007)



Google Image search: voronoi





Google Image search: voronoi architecture

COMMON ALGORITHMS, YOUR PROBLEMATIC FRIEND

All of these are awesome (and beautiful) tools. But they are not neutral vessels. In fact, their popularity stems directly for their usefulness and/or ability to produce strong visual forms.

Algorithms provide the means to produce specific outcomes, typically through generative logic or data processing. But in the process they leave their distinct footprints on the result.

“Speaking” through algorithms, your way of thinking about a problem and your range of expression are shaped by their syntax.

THE TEMPTATION

Upon “discovering” an elegant algorithm that yields compelling visual results (say, circle packing or reaction-diffusion) there is a strong temptation to exploit it as-is, crank out a series of images and brag about it on social media.

Problem is, the kid down the block often has the same idea.

And both of you have access to Github.

[All Discussions](#) [My Discussions](#)[+ Add](#)Welcome to
Grasshopper[Sign Up](#)
[or Sign In](#)

Translate

Select Language

Powered by Google Translate

Search Grasshopper

Google™ Custom Search

[Search](#)

Photos



by Niltant Hirlekar

0 0



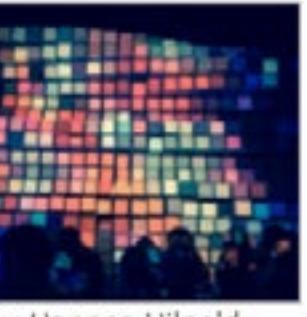
by Hannes Hilpold

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by Hannes Hilpold

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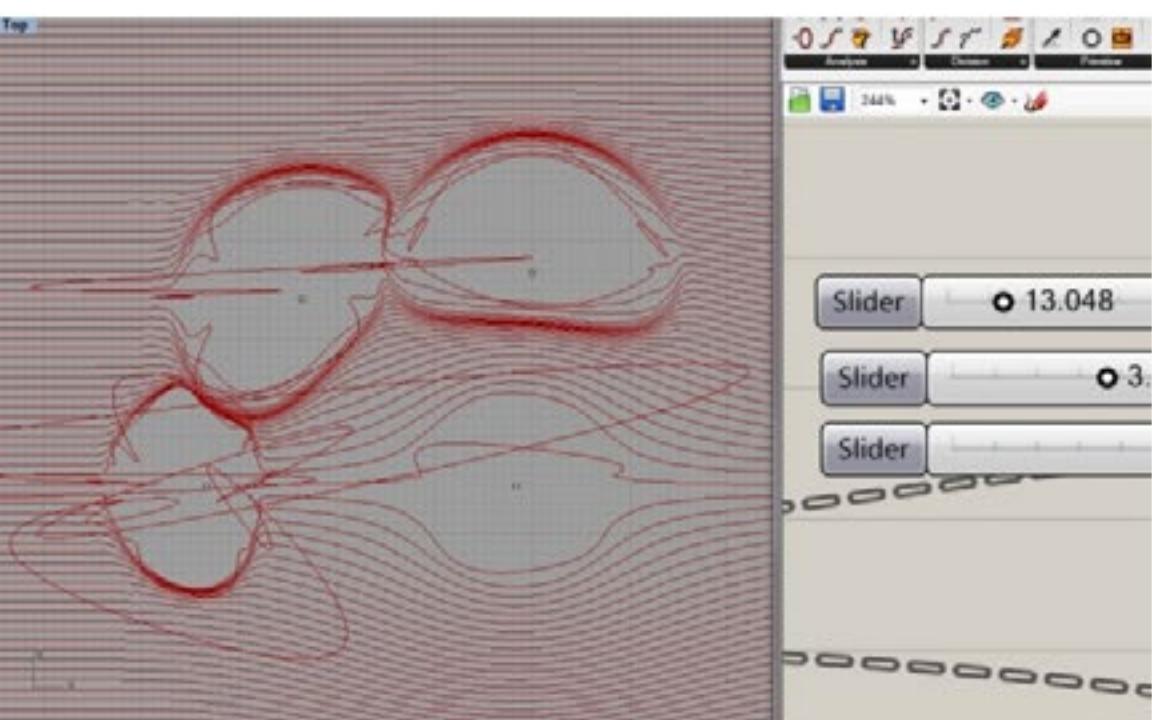


by Hannes Hilpold

0 0

[oo](#) Reply by [MilanK](#) on March 28, 2012 at 12:23pm

Thanks, i tried this

I cant get lines that have nice flow and form,
like this:I got some nasty lines, is there some other way to get
something similar?

Attachments:

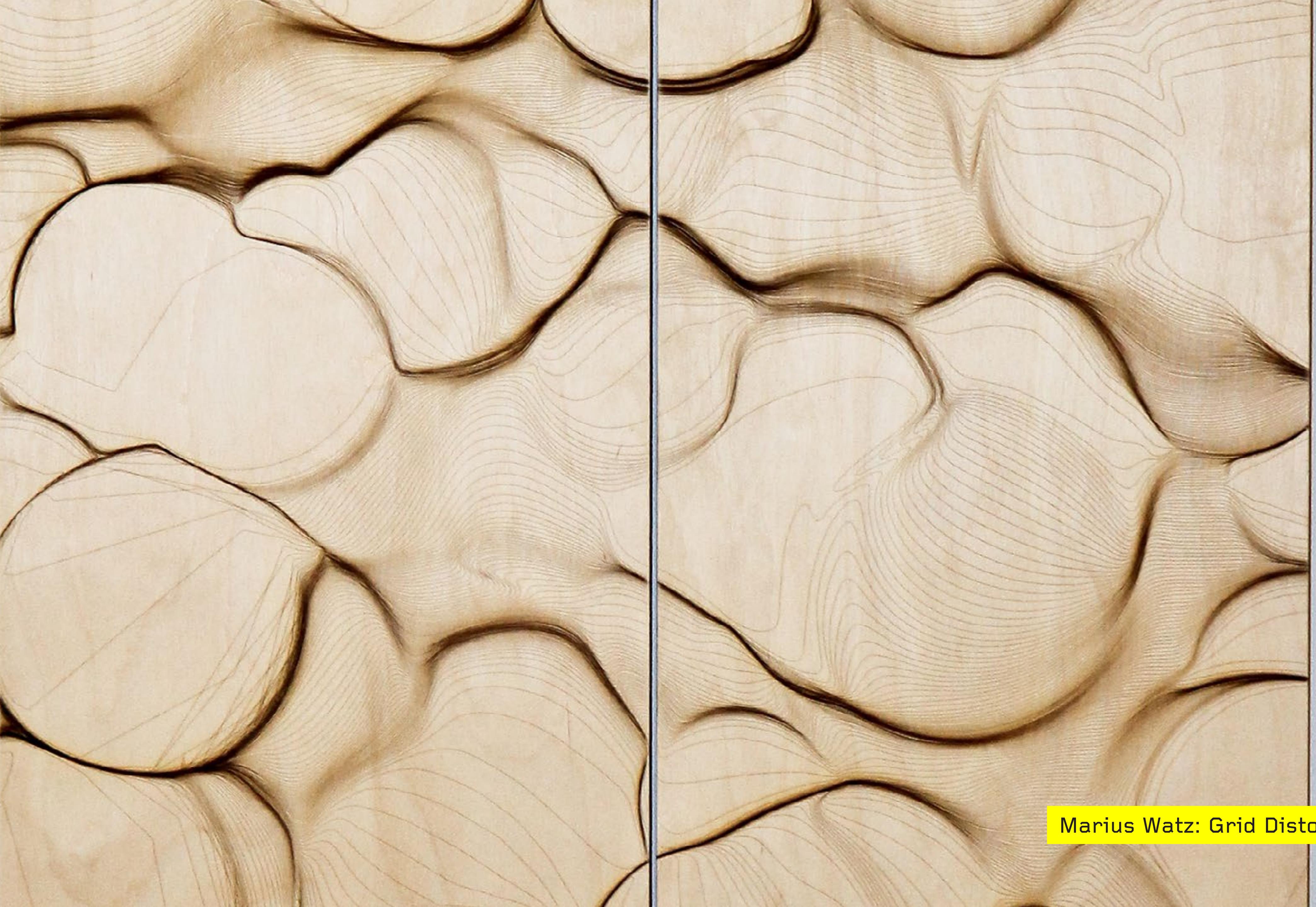
 [solution33.gh](#), 25 KB[Reply](#)[oo](#) Reply by [Michael Pryor](#) on March 28, 2012 at 1:06pm

i don't have time at the moment, but i did just open your

grasshopper3d.com forums
How to emulate my Grid Distortions series[oo](#) Reply by [MilanK](#) on March 28, 2012 at 1:16pmYes, im not sure i now how to use it, i hope it will make
batter

0 0

Added by ng5 Alex
 2 18[+ Add Videos](#) [View All](#)



Marius Watz: Grid Distortions

ALGORITHMS AND DATA AS FOUND OBJECTS

Untreated and unmodulated, a standard algorithm is just a found form - a preset structure producing preset results.

Similarly, many data sets have striking intrinsic forms or "data textures":

- » Network structures
- » GPS traces
- » Plots of timestamped events
- » Audio waveforms
- » FFT spectrum analysis ("sound landscapes")

Marius Watz: The Happy
Message / call viz (metadata of a relationship)

ALGORITHMS AND DATA AS FOUND OBJECTS

Given the seductive visual impact of many of these preset forms, awareness of what you bring to the final creation must be a part of any critical computational creativity.

Most importantly, consider:

- » Craftsmanship (trite, I know)
- » Originality / transformation
- » Credible claim to authorship

A HIGHLY UNSCIENTIFIC CRITERION FOR ALGO CRITIQUE

As stated in the original Algo Thought Police post:

"Unless you can make it *rock*, stay away. (And if you don't think algorithms can rock, we have nothing to talk about.)"

What I meant: Well, make it rock. (It seems obvious, doesn't it?)

"INSTANTLY KNOWABLE AND INFINITELY MASTERABLE" (GOLAN LEVIN)

Unlike a pencil or a piano, an algorithm for visual composition or parametric design is rarely (if ever) instantly knowable or infinitely masterable.

More commonly it is a terra incognita, the features of which must be discovered through experimentation.

THANK YOU FOR LISTENING!

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mariuswatz.com

[instagram.com/nosuchfuture](https://www.instagram.com/nosuchfuture)

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